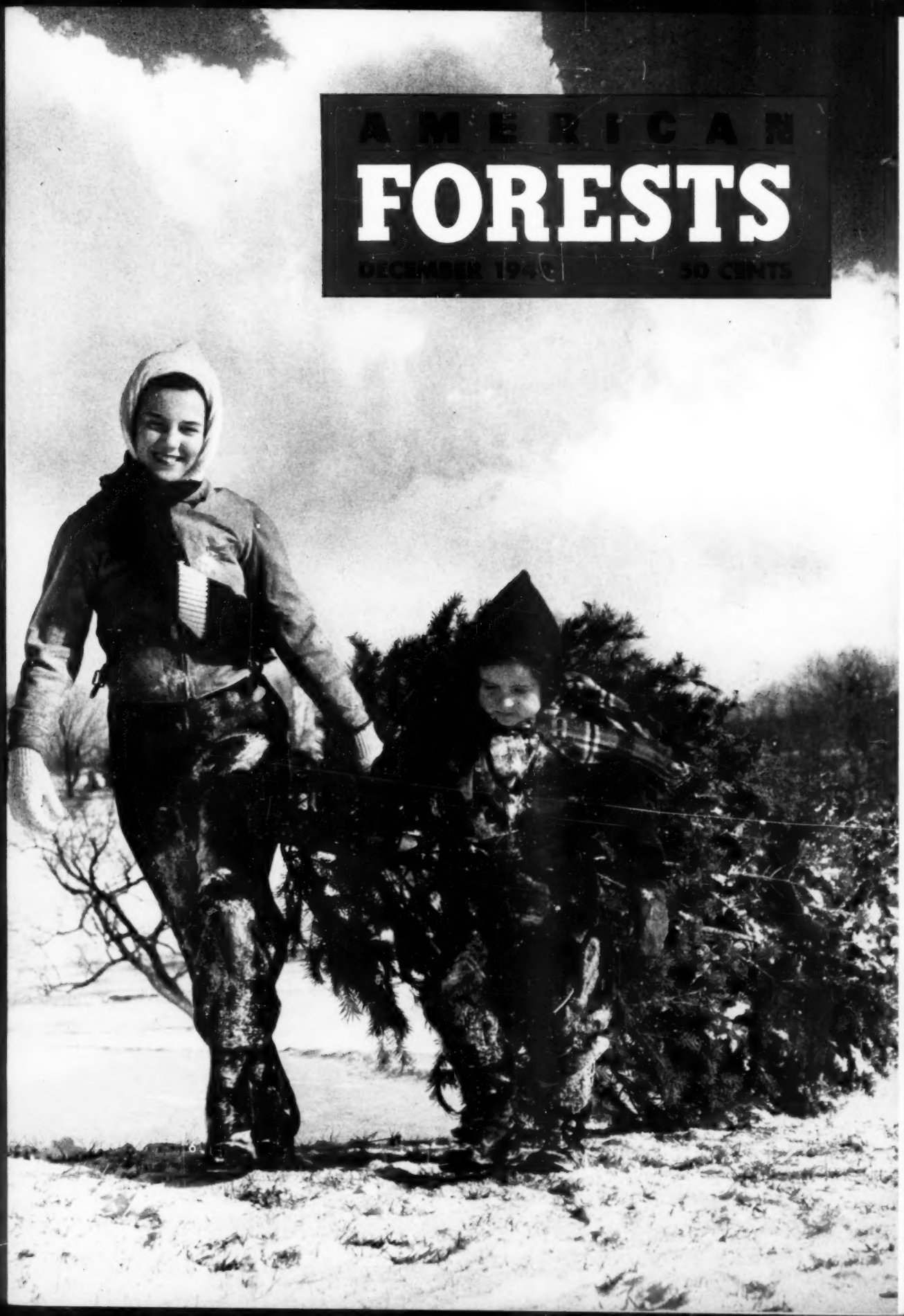
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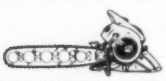

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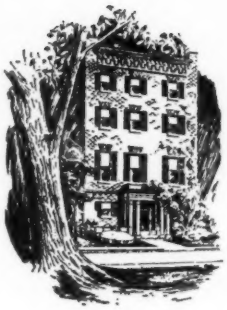

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The American Forestry Association is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

AMERICAN FORESTS

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ERLE KAUFFMAN
Editor

JAMES B. CRAIG
Associate Editor

NORT BASER
Assistant Editor

JAMES FISHER
Art Director

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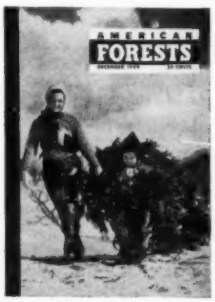

THE COVER

Asked to identify the species of tree Margaret and Dolores Hartman are dragging in on this month's cover, Edward J. Carlin, Jr., of the Harold M. Lambert Studios, replied, "That's easy—it's a Christmas Tree. You specialists aren't going to get me out on a limb." While this shot may possibly evoke nostalgic memories for people who used to go out and cut their own (remember how they were always bigger somehow once you got them inside the house) the truth is this tree, a commercial species imported from the Northwest, was taken to this location near Philadelphia for the express purpose of making a picture. Except for a few imaginary licks, nobody even got to swing an ax.

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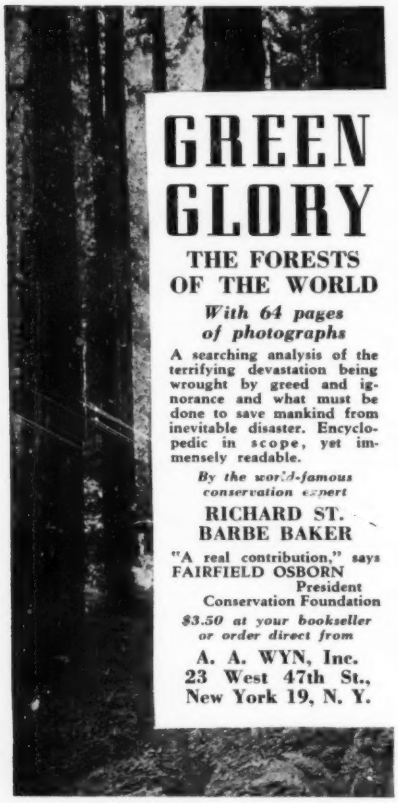
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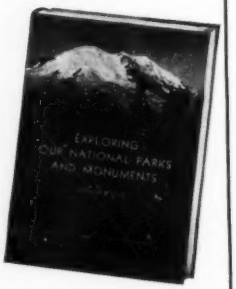

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Masatomi Ohga

Yabase, Kuritagun
Shigaken, Japan

What Trusteeship Means

One of the real tragedies in conservation lies in the confused thinking of its leadership, a good example of which is the editorial ("We Need a Sense of Trusteeship") in the September number of AMERICAN FORESTS.

Talk about a voice crying in the wilderness, that editorial is it. Of course, people are losing faith in private initiative when private initiative seeks to extend the sphere of its influence beyond the scope of private gain. By its very nature, private enterprise cannot go further than the prospects of profit permit. When there is no prospect of profit within the immediate future private enterprise cannot act. Public enterprise must take over at that point.

The real culprits in putting power before public interest are not the politicians but the large private owners whose power rivals and sometimes exceeds the collective power of the people. Editors who see the problem but refuse to accept the obvious answer are the most reprehensible because they have assumed the responsibility of keeping the people informed and then refused to face the consequences when the facts are made known.

If it weren't for the fact that there are good examples of reconciling private enterprise and the exercise of public responsibility, i.e., trusteeship for the future, the editors might be forgiven. But there are good examples and the editors know it.

The sacred relationship between God and earth is real enough, but it cannot manifest itself in the acts of man when an impersonal corporation takes the place of men. If every citizen were a member of the corporation, the corporation might serve as an intermediary. Until everyone feels a sense of proprietorship and gets a feeling that his posterity as well as the stockholder's posterity will benefit, the sense of trusteeship will not develop. Neither will it develop as long as the be all and end all of life is private enterprise —the right to do as you damn please with what is yours. Trusteeship means that what you have is not all yours. Everyone has a stake in this integrated world and in every part of it. When we order our economy on that basis we will have a sense of trusteeship. The way out of the wilderness is clear but no editorial Moses has appeared to lead the way.

Everett A. Pesonen
Sacramento, California

Getting Together on the Water Problem

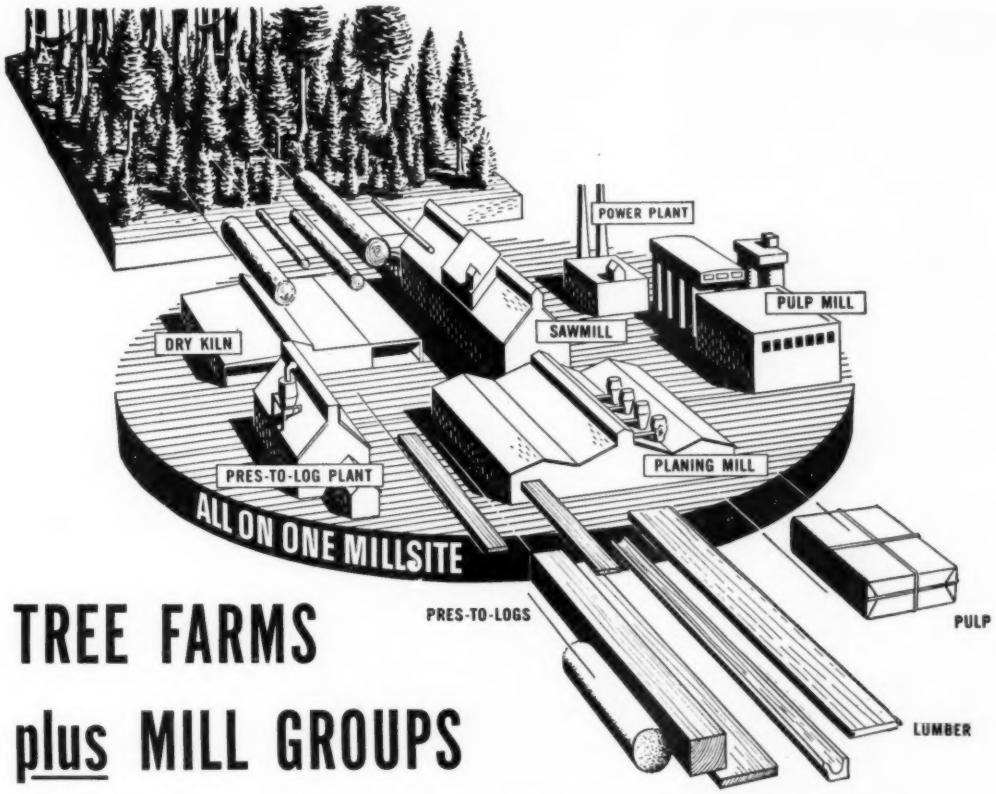
As a geologist I am especially interested in articles published in AMERICAN FORESTS which discuss the problem of soil conservation and flood control.

The article, "Bad Medicine for the Rio" (August issue), is probably an outstanding example of the need for study and control of the problem. Since it is no small chore for scientists in a given field to keep up with the literature of their sciences, it is especially difficult to be aware of pertinent papers published in the technical bulletins of other sciences. For this reason allow me to call attention to another thorough article on the subject entitled "Sedimentation in the Middle Rio Grande Valley, New Mexico," by Stafford C. Happ. This article appeared in a geological journal, *The Bulletin of the Geological Society of America*, December, 1948, (Vol. 59).

The author of the article states that, "Several federal agencies are engaged in extensive investigations directed toward preparation of plans for programs for improvement of grazing, irrigation, drainage, forest and soil conservation conditions, and flood protection in the Middle Rio Grande Valley and its tributary drainage basin." Since the problem of soil erosion and flood control is both enormous and not well understood, the proper approach by federal agencies to its control is a matter of paramount importance from an economic standpoint alone.

The fact that solutions to the problem are not yet adequately in hand are expressed in articles appearing in AMERICAN FORESTS. The question arises just what approach will be most efficient in bringing the attention of the country to the seriousness of the question. I would be especially interested to know how much cooperation among the several scientific societies and government agencies which are represented in Washington is taking place. Certainly it seems that the Department of Agriculture, the Geological Survey, the Geological Society of America, the National Research Council, the American Geological Institute, and the American Forestry Association should be aware of each other's information and efforts concerning this problem. If greater cooperation among these agencies and societies is necessary, such coordinating groups as the newly-formed American Geological Institute and the National Research Council may be persuaded to take the matter more seriously under advisement.

As a reader of AMERICAN FORESTS I and possibly many others who are concerned about the problem of soil conservation and flood control would like to know just how efficiently agencies and societies are dealing with the problem in Washington. Ex-



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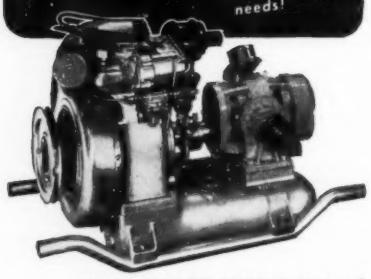

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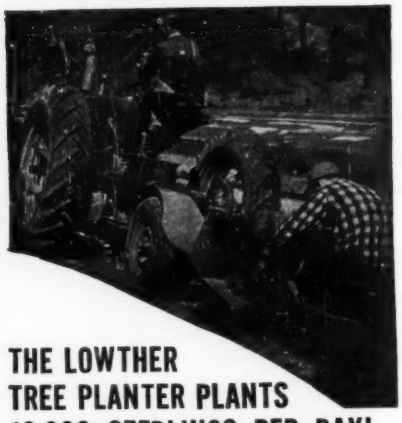

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cellent work locally is being done here and there as evidenced by the article "The Second Battle of the Brandywine," by James B. Craig, in your October issue. Reasonable concern for the handling of the problem in Washington exists because it may be that (1) enormous spending for improper programs will prove costly to this and future generations, or that (2) an integrated and practical approach to the problem guaranteeing maximum benefits to the land may be inaugurated.

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Credit Where Credit Is Due

No doubt your attention has been called to certain facts necessary to complete the record in the very interesting story "Home on the Range for the Longhorns" in the September issue of AMERICAN FORESTS.

In the story no mention is made that Will C. Barnes, former chief of grazing for the Forest Service, originated the idea and interested, as I recall, the late Senator John B. Kendrick of Wyoming, in obtaining an appropriation for perpetuating the longhorn strain of cattle which was rapidly passing out of existence.

Mr. Barnes and John H. Hatton, at that time assistant regional forester in charge of the division of range management for the Rocky Mountain region of the Forest Service, traveled over large portions of Texas and Mexico to gather the nucleus of the present-day herd of longhorns which is so well described in your article.

William Earl Drummond was ranger on the old Wichita National Forest and Game Preserve, in which position he has continued to this day under the Fish and Wildlife Service. As ranger, one of his duties was to look after the longhorn herd. Mr. Drummond is not "the man who fathered the idea in the first place," and I am sure that he makes no such claim.

In justice to the memory of Will C. Barnes and John H. Hatton, both pioneers of the Service and both now gone to their reward, I suggest this correction and addition to your very good story in the September issue of AMERICAN FORESTS.

Fred R. Johnson
Denver, Colorado

COMMITTEE NOMINATES AFA OFFICERS

The election ballot, which will be mailed to all members of The American Forestry Association in December, will contain the following slate of officers for 1950 as nominated by the Committee on Elections.

For President: A. C. Spurr, of West Virginia, president, Monongahela Power Company.

Directors for three years: Walter J. Damtoft, North Carolina, assistant secretary and treasurer, Champion Paper and Fibre Company; Karl T. Frederick, New York, chairman of the Board, New York State Conservation Council; Don P. Johnston, North Carolina, president, North Carolina Forestry Association; Randolph G. Pack, New York, president, Charles Lathrop Pack Forestry Foundation; James J. Storrow, Massachusetts, treasurer, Society for the Protection of New Hampshire Forests.

For Treasurer: John M. Christie, District of Columbia, assistant vice-president, Riggs National Bank.

For Honorary Vice-Presidents for one year: W. C. Bailey, Tennessee, president, First National Bank of Clarksville; Folke Becker, Wisconsin, president, Trees for Tomorrow, Incorporated; Honorable Charles F. Brannan, District of Columbia, The Secretary of Agriculture; Raymond J. Brown, New York, editor, OUTDOOR LIFE; Mrs. Le Roy Clark, New Jersey, chairman, Conservation Committee, The Garden Club of America; Donald Comer, Sr., Alabama, chairman of the Board of Directors, Avondale Mills of Alabama; Dr. Wilson Compton, Washington, president, Washington State College; E. J. Condon, Illinois, director of public relations, Sears Roebuck and Company; L. A. Danse, Michigan, General Motors Corporation, member, President's Water Pollution Control Advisory Board; Walter E. Disney, California, president, Walt Disney Productions, Limited; Aubrey Drury, California, administrative secretary, Save-the-Redwoods League; Walter E. Humphrey, Texas, editor, the Fort Worth Press; Joseph F. Kaylor, Maryland, president, Association of State Foresters; Miss Ethel L. Larsen, Michigan, Chairman, the Conservation of Natural Resources Committee, General Federation of Women's Clubs; George Houk Mead, Ohio, member, National Citizens Commission for the Public Schools; Leslie A. Miller, Wyoming, chairman of the Committee on Natural Resources Commission on Organization of the Executive Branch of the Government; W. A. Roberts, Wisconsin, vice-president, Allis-Chalmers Manufacturing Company; Dr. Paul E. Tilford, Ohio, secretary-treasurer, National Arborist Association, Incorporated; William Vogt, District of Columbia, author and former chief, Conservation Section, Pan American Union; Edward A. Wayne, Virginia, vice-president, Federal Reserve Bank of Richmond; Vertrees Young, Louisiana, vice-president, Gaylord Container Corporation.

Members on the Committee on Elections for 1950 are: Bryce C. Browning, of Ohio, Chairman; Samuel T. Dana, of Michigan, and D. C. Everest, of Wisconsin.

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Here a noted landscape architect and conservationist proposes a network of arborways as a means of spreading knowledge of our plant resources and their benefits to the millions who travel our highways

Arborways for America

By HARLAN P. KELSEY

WITH a large part of the earth's surface now waste desert or fast becoming so, the result of uncontrolled, ignorant and selfish exploitation, the time is here when only a complete knowledge of the plant resources of the world, followed by their sane safeguarding, development and expert utilization, will avert untold disaster to the human race.

This is why the proposal is made here that we establish a network of arborways along the major highways of the country—national arborways and interstate arborways, state arborways and even county arborways. Eventually, perhaps, Canada and Mexico will undertake a similar program, linking their highways with ours. Indeed every nation in the world should have a comparable system of arborways.

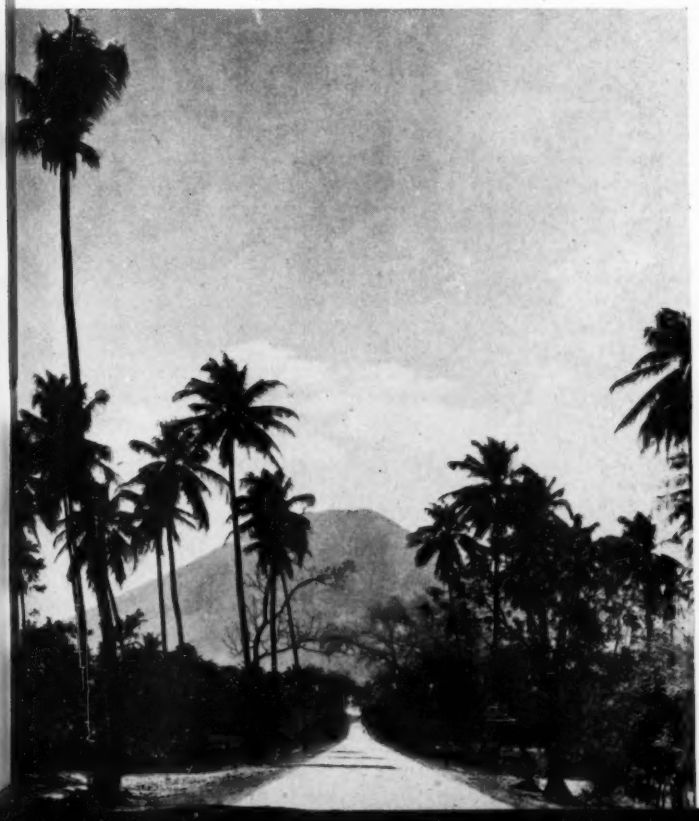
The almost unlimited marginal lands bordering American highways, suitably protected and developed, would provide an unparalleled yet vastly pleasing way to bring a knowledge of plant and animal life and their proper environment to all who travel—and this means millions of people!

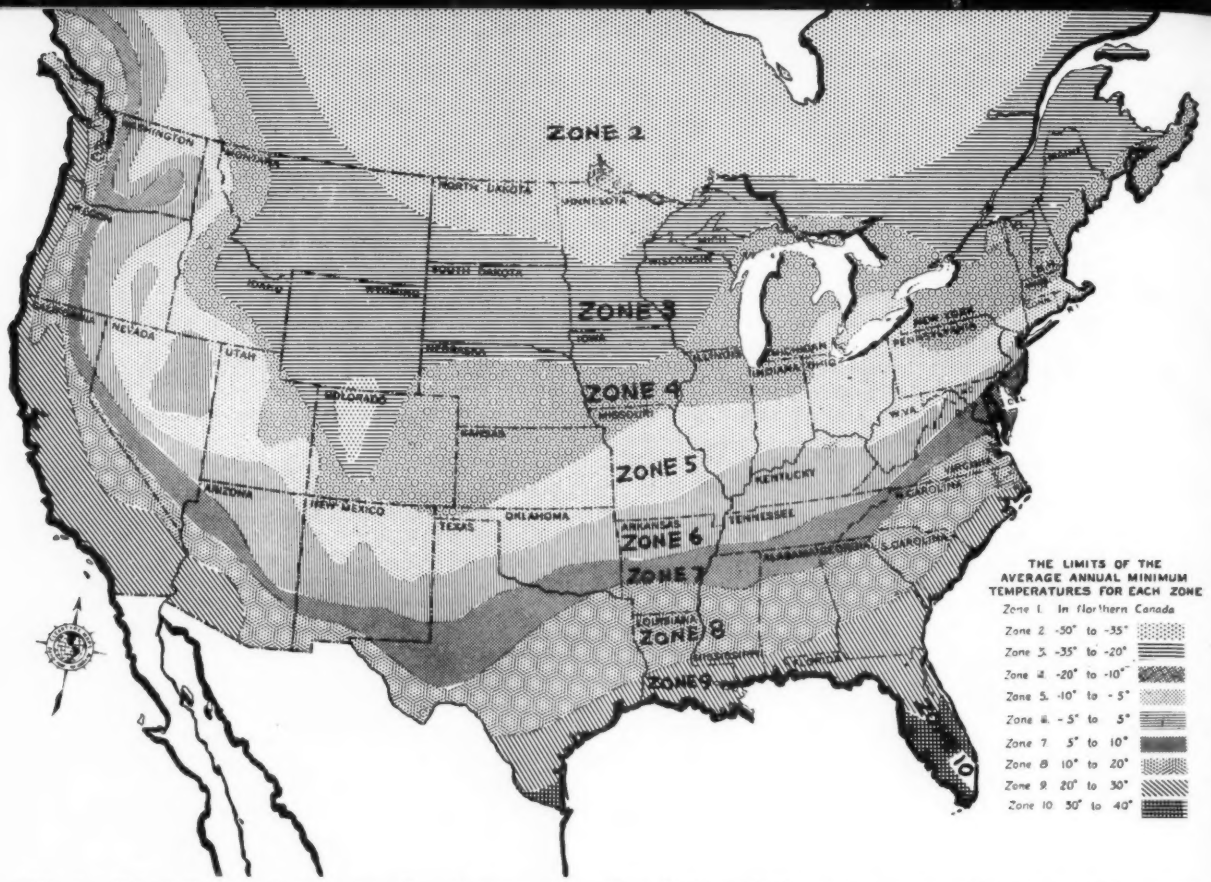
Existing or future main highways that have suitably wide rights-of-way, or possibilities of acquiring them, should be chosen for major arborways. For the most useful results, where feasible, each major arborway should be practically continuous, extending from one extreme climatic or plant zone to the extreme opposite zone. An example would be U.S. Route 1, or its equivalent, from climatic zone 3 in northern Maine, to climatic zone 10 in southern Florida.

U.S. Route 1 from Maine to Florida offers an outstanding example of arborway continuity that bisects seven plant zones. The Everglades (left) represents one example

Merritt Parkway (above) connects New England and New York City

Spanish map showing how Inter-American Highway—glimpsed below in El Salvador—links with U. S. highways





With the United States belted by ten climatic zones, the author thinks multiple-use arborways primarily should be routed from north to south so that the indigenous plants of each climatic and plant zone would follow in natural sequence

The location of each arborway must necessarily be scientifically studied as to rights-of-way, soils, landscape features and possibilities for wayside parks, camp sites and recreational areas. Above all, it must qualify for the establishment of adequate group, orchard and forest plantations of native and exotic trees and plants for experimental, educational and ornamental purposes. Therefore it might be advantageous to have sections of a major arborway transferred to parallel highways where conditions are more favorable, rejoining the main arborway route when suitable conditions again prevail. Necessarily, there would be many gaps in the continuity of arborway plantings, due to routes passing through thickly populated communities, or to narrow, restricted rights-of-way.

Adequate parking space should be provided where the leisurely traveler may stop and rest, study and enjoy nature, and feel reasonably secure from harm by the modern speed fiend. This could easily be accomplished by supplying adequate turnouts, even on the heavily traveled freeways. Approach to special plantations, camp sites, recreation areas, parks and forests would be had at "access" intersections.

Obviously, the majority of major arborways in the United States, at least east of the Rocky Mountains, should be routed generally from north to south, so that the indigenous plants of each climatic and plant zone would follow in natural sequence. Yet, there are many important east to west possibilities, extending from sea or plain level across tablelands, mountain systems and valleys, where coast-to-coast or local arborways would be highly desirable. For example, one route could lead from the North Carolina or Virginia seaboard across the Alleghenies to the Mississippi Valley, or even beyond to the California coast. Another could run from Long Island or the New Jersey coast through Pennsylvania and across the heart of the nation to the Washington or Oregon coast lines. There are many other possibilities—enough to completely cover the plant life of the nation.

Plants indigenous to each zone should be planted exclusively along the major sections of an arborway. However, at suitable intervals in each climatic zone, adequate sections should be designated and used for the planting and testing of the greatest possible variety of ornamental and economic exotic plants. Other sections should be devoted to test plantations of fast-growing hybrid trees, to native and exotic fruits and nuts, and to all other types of economic plants, even drug plants and grasses. It is highly important that a correct ecological balance be maintained, not only by correct plant combinations, but by restoration and protection of native wildlife including useful insects.

An interesting and educational interstate arborway could be developed along Skyline Drive and on the Blue Ridge Parkway from Front Royal, the northern portal to Shenandoah National Park in Virginia, through North Carolina and across to Gatlinburg, Tennessee, the main western entrance to Great Smoky Mountains National Park, a distance of 550 miles. Except where "civilization" has made too bold an incursion on the original plant cover, plantings should be of native material exclusively, as is already the laudable National Park Service practice on the Blue Ridge Parkway, but where as yet only a comparatively limited number of the extraordinary wealth

of species and varieties indigenous to the Southern Appalachian region have been used.

A branch of this arborway might easily extend southward from the Blue Ridge Parkway at Balsam Gap, North Carolina, down the Tuckasegee River, through the Nantahala National Forest to the Georgia pine regions, continuing down the Florida West Coast and over the Tamiami Trail to Miami, thus covering an amazing succession of climatic and plant zones.

Along this arborway would be brought together and planted the complete native flora of each zone, combining beautiful landscape effects with recreational, educational and forestry objectives. Here could be assembled the most unique, varied and beautiful plant life to be found in any comparable region in America, if not in the entire world—an elongated national arboretum of priceless values.

The new Washington-Baltimore freeway offers an outstanding example of a "ready-made" opportunity to inaugurate a national arborway program, an initial project which if imaginatively and scientifically planned, planted and maintained, might well become the inspirational yardstick for the entire nation in the arborway and arboretum program.

This thirty-mile expressway will have two twenty-four-foot traffic lanes with a parkway of 100 feet or more dividing them. In the District of Columbia it connects with New York Avenue at the main entrance to the National Arboretum. At least to the northern boundary of Camp Meade, a distance of eighteen miles, it has rights-of-way averaging 400 feet in width, and for a considerable mileage traverses federal property, including Greenbelt, the Department of Agriculture Research Center at Beltsville, and a small part of Camp Meade. It also borders the Patuxent Wildlife Refuge of the Department of the Interior.

This could logically be a section of a main north-to-south arborway from Canada to Florida. As it will be one of the most heavily traveled automobile routes in America, it should probably have a different type of planting than in less traveled or populous sections. Strategically located in climatic zone 7, between zones 4, 5 and 6 to the north and 8 and 9 to the south, this freeway is a median point where all six zones are but a short distance apart, making it feasible to use successfully plant material from nearly every state in the union.

At suitable sections along this arborway, all official state trees and flowers that can be successfully grown could be assembled in adequate group plantations, with appropriate informatory bulletin boards for each section. It would be highly educational, and citizens from the various states visiting the National Capital would naturally feel a personal interest and ownership in this national arborway, an elongated segment of the National Arboretum.

As stated, the southern end of this freeway adjoins the National Arboretum and should be planned and planted as an integral part of it, at least to the northern limits of Camp Meade and preferably to Baltimore. The Public Roads Administration and the National Park Service, in charge of planning and constructing this freeway from Washington to the north border of Camp Meade, have expressed to the National Arboretum Advisory Council a willingness that the plantings be planned and administered by National Arboretum authorities as a part of the arboretum.

The 410-acre Mt. Hamilton site of the arboretum admittedly is painfully inadequate. Eighteen—or thirty—miles of freeway right-of-way would make a notable addition. The Department of Agriculture also might be willing to allocate for arboretum

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Development of almost unlimited marginal land bordering American highways would be one goal of arborways. A good start has already been made on some highways—such as U.S. Route 40 in Indiana. The new planting may indicate a trend

Photo by Public Roads Administration

Harold M. Lambert

The starry-eyed delight of children when they first glimpse its splendor on Christmas morn is the moment supreme in the life of any Christmas tree

Modern Christmas Trees

Grandpa used to cut his own. Today it's delivered at your door. But it's the same tree —with the same forest flavor

By BEN M. HUEY

IN this modern world of plastics, television, and blended aspirin substitutes, the simple, old-fashioned Christmas tree is almost a stranger from another era. Can you imagine what it would be like if designing engineers tried to modernize it!

Perhaps it would be something more streamlined and functionally designed with custom tailored ornament hooks, multi-purpose and detachable branches, and an atomic-powered star at the top. Home designers might catch the trend and come out with a pre-fabbed, built-in Christmas tree unit. What a gadget that would be—a device geared to the calendar to pop out a decorated and ready-lighted tree all set to mechanically emote Yuletide cheer.

True, the Christmas tree custom is old and squeaks a little here and there in acclimation to the modern pace. There is that annual struggle that begins at the Christmas tree lot with price negotiations and ends weeks later in the pitched battle between the homemakers and the offspring over taking the tree down. Not to mention the interim daily needle sweep and the burned out bulb replacements—often classed as high tension electrical work when accompanied by crying small fry and rickety ladders.

But these and other "squeaks" in the custom machinery are all very minor and certainly do not warrant remodeling toward a Christmas tree facsimile. Everyone seems content with the present old, hand-me-down model—that naive, innocent, and natural tree fetched in from the woods. Nevertheless, perhaps a little new information on our customary Christmas tree might stimulate added interest in the old tradition.

Seven out of ten occupied dwellings will be decorated by the usual Christmas trees this year, according to estimates by government experts. Some 28,000,000 homes will be gayer and brighter thereby. Children from eight to eighty will once again revel in the ageless and age-old delight of a decorated evergreen.

One of the most important centers of Christmas tree production is Eureka, Montana, a little town high up on the Rocky Mountain backbone where Montana rubs shaggy shoulders with Canada. The village of 912 people becomes a beehive of activity during the season of getting out Christmas trees. Last year 155 freight carloads journeyed out to the nation from tiny Eureka—which claims title as the "Christmas tree capital of the world."

It is the soil and climate of the Northern Rocky Mountains that produce a superior Christmas tree. Unlike the requirements for most other crops, the soil for growing good Christmas trees must not be too fertile. If it is, the tree will grow too fast making the whorls of branches widely spaced and destroying its value as a Christmas tree.

It takes about thirty years to grow a Christmas tree from seed under wild, or forest conditions and strangely enough when the trees are cut for market, the tall ones are about the same age as the two to three footers. A prime requisite for Christmas trees is that they be frost-kissed before cutting starts in October. A cutter says they are ready for harvest when they stop spitting at you when they feel the ax. He refers to the sap's being "down in the roots" and the trees being dormant.

Husbands in varying degrees of hen-peckedness may get a mite of solace out of the statement of one

long-time Christmas tree cutter. He cuts thousands of trees every year but avows that the one he dislikes most of all to cut is the one that must please his wife. He says he goes tree blind hunting for that super-duper, deluxe specimen for their home.

Actually, there is such a thing as "tree blindness." It is a curious psychological malady that strikes some cutters after working steadily in one area. They get so they can't "see" any more Christmas trees in the forest and have to change areas or rest up for a time.

The real test of a good cutter is in his being able to cut trees that will pass the minimum qualifications and be able to spot those trees rapidly enough to turn in a high daily volume. Last year cutters got about twenty cents a tree for cutting them and they earned upward of $25 a day, depending upon the quality and quantity of trees in the forest.

Sometimes dire necessity and hopeful imagination combine to produce unusual Christmas trees. On the almost treeless prairies during the depression, cottonwood and sagebrush occasionally substituted for an evergreen. In some sections of large cities even a broomstick has been considered better than no Christmas tree at all.

At times exigency or availability dictates the choice of a tree for Christmas, but, whatever the reason a white-sprayed tree for his living room, or in Houston where one perfect tree sold for $30. Many people have had their blood pressure raised by the price of trees.

Frequently, however, the dealer is not making "a killing" on his trees. When you stop to think of it, Christmas trees can be considered one of the most perishable commodities. They must reach every market exactly a few weeks before Christmas and they must be sold by December 25th or become a total loss. Part of the merchant's price on trees covers the considerable risks of the business.

Also, the price he asks on perfect inferior trees are brought to market at all is a good one, since no one prefers them.

Obviously, the answer is to grow more and better Christmas trees. How to do just that is the purpose of experiments now under way by the research branch of the U.S. Forest Service at the Northern Rocky Mountain Forest and Range Experiment Station at Missoula, Montana.

It is strongly suspected that nature can be improved upon in producing wild, forest-grown Douglasfirs for Christmas. Some people believe that if they prune off the lower branches of the prospective Christmas tree,

Family scene—these young Douglasfirs clustered around their parents don't know it yet but their destiny is interwoven with strands of tinsel and flickering candles

K. D Swan, USFS

K. D. Swan, USFS

Prelude to the Christmas rush—bundling fir trees in Montana for shipment East

last year, over twenty-five species of trees were effectively used. Over half of the families in the country chose either balsam fir or Douglasfir.

Probably the extremes in prices were reached in Hollywood where a prominent comedian paid $75 for and near perfect trees is partly due to their rarity and the demand for them. The much wanted trees must pay for more than their share of the costs of production so that the merchant will not lose in selling inferior trees cheaply. The question of why then several years later the upper part of the tree will be denser and better formed due to the shock-caused reduced growth. The experiment station is investigating the possibilities of various pruning methods.

A Christmas tree grown from seed in the forest requires about thirty years in the Northern Rockies. Stump culture experiments will develop the best method of short-circuiting nature to produce a tree in but five to ten years. When the Christmas tree is cut, live branches are left on the stump. One to several of these branches then turn up to make new Christmas trees. Seven Christmas trees harvested successively from the same stump is the record so far but there seems to be no limit to the harvest from the same set of roots by this process.

Another research result that may ultimately assure better trees is the formulation of Christmas tree grading rules. As grades come to be applied, you may eventually be able

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Nimrods doff their caps to this Houdini of the coverts. A bold strategist, he's tricky, cool and has the nerve of a bank robber

Grouse are Psychic

By WILLIAM J. SCHALDACH

THE ruffed grouse is the confidence man of the coverts. He'll allow you to play his game just so far, but when you think you have him dead to rights, look out! He is as full of tricks as a Houdini; furthermore, he possesses the nerve of a bank robber and it is this cool, deliberate, insolent nerve that makes him the toughest shooting proposition on the whole list. Call him grouse, partridge, "pa'tridge" or *Bonasa umbellus*, if you want to get technical, but he is still the same character—Number One Boy of the roost.

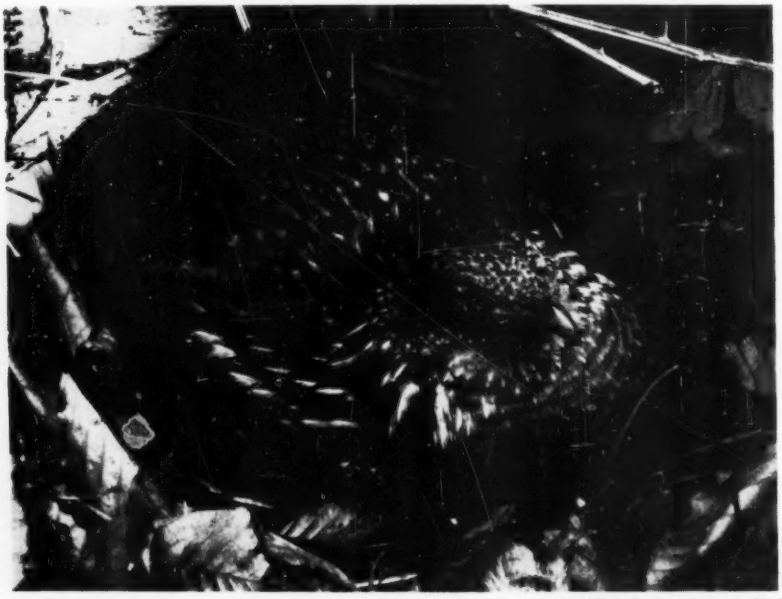
Caught in a tight spot, he will lie until you practically step on him, then roar up almost into your face, utterly demoralizing you. He will often allow you to pass him within a couple of yards—knowing that because of his protective coloration he is virtually invisible—then clatter out behind you and be off into thick cover before you can swing on him. He is intuitive and knows to the split second the moment you will be stooping under a limb or straddling a stone fence. He can calculate to the fraction of an inch the thickness of a tree trunk and your position behind it and will flush precisely at the right instant to keep the trunk between the two of you until he is safely out of range. The grouse is a master at timing and a strategist of the first water. More than that—and this is the tip-off—he is an iron-nerved, cold-blooded, unpredictable proposition. When hunting him, never forget this:

The ruffed grouse has more nerve than you!

In grouse hunting there is no such thing as consistency. If, at times, I get a little cocky about my shooting I climb back to earth fast by recalling what a certain bird did to me on a golden October day a few years ago.

Old Ted, my big orange Belton setter, sneaked along like a cat as he neared the end of the covert. The grouse was a runner and the dog had picked up his scent some two hundred yards back, following with high head and the slow caution that comes only after years of experience. The brush, which consisted of sumac, young poplar and birch petered out into the apex of a triangle and ended in a perfectly open, stony pasture. There, with no cover of any kind for an eighth of a mile ahead, the bird lay like a stone. Ted jelled into a solid point, then rolled his head ever so slightly back toward me. He was saying, "Watch it, boss, I've got him right under my nose; this could be tough."

Didn't I know it! That grouse had planned a deliberate campaign—a war of nerves—which he had a better than fifty percent chance of winning. And *he* knew it. At any moment during the trailing he could have broken out and afforded me a comparatively easy shot. A young bird might have done that in sudden panic, but not this fellow. I could tell from his actions that he was a wise old fantail, probably one who had survived many encounters with dog and gun.



Allan D. Cruickshank, NAS

It is difficult to see a ruffed grouse in its nest—a rough affair of twigs built on the ground and sheltered by a tree stump or log

Allan D. Cruickshank, NAS

The personality of the grouse is unmatched by any other game bird. He has vast poise and the regal bearing of a duchess

My pulse began to climb and the familiar tremble known as grouse fever stole over me. A step forward, then another, but nothing happened. "Get out!" I commanded, stepping cautiously toward him. The nerve of that bird was colossal. He had me thoroughly spooked and pretty mad besides. A sizable log lay in the path and I had to lift a leg over it to get to the bird. Of course he broke out with a contemptuous roar just as I was halfway over. They always do. Caught off balance, I made as miserable a miss with both barrels as the nastiest cynic could dream up and gloat over.

I have hunted grouse from Michigan to New England and a lot of territory in between, but I still don't know much about grouse shooting. Not many men do. But I have learned something about the bird itself, and it is the character of that fabulous fowl, the ruffed grouse, which concerns us here. Once you understand the psychology of the cuss—which is to get you completely rattled—you are in a better position to cope with him.

When I missed that grouse that had out-generaled me so brilliantly I was thoroughly chagrined. Ted marked him down at the edge of a piece of thick cover and he immediately picked up scent. With whipping tail he bored right in, working fast. We crowded that bird, giving him no time to think and plan. It was more than his nerves could take and he flushed noisily from a clump of thick brush about fifteen yards ahead. I had a glimpse of him only, but it was enough to give me the line of flight.

He was a grand old red-tail, outmaneuvered because he had succumbed to panic. Actually, the shot was more difficult than the other one out in the open, but there was this difference: the first time the bird had me completely jinxed; then I shook off the jitters and was able to put the hex sign on him.

The grouse has a unique personality which is absolutely unmatched by that of any other game bird. He has vast poise, and no duchess ever possessed greater composure. His bearing is regal, even insolent, and he does not hesitate to display it even when actually in the face of imminent peril—the presence of man and dog. He will draw himself up stiffly to full height, partially spread his fan, elevate his ruffs and stare at you icily. His look is one of utter contempt. He is pulling what might seem like a colossal bluff, but don't be too sure it won't work. Before you start slipping him in your coat pocket remember those ruses and tricks he has in his bag. He is going to use one of them when his toes start twinkling on the dry leaves and his strong swift wings flash him off with such suddenness that the eye can scarcely follow the movement. Which one will it be? If you guess right you may roll your bird, but there'll be no time to think it out once you hear those beating pinions.

Strange as it may seem, the bird you see on the ground—either over a point or when you are still-hunting—is the one you are most apt to miss. Strange, that is, until you take into consideration what the grouse can do to you psychologically through his sheer nerve. It's a definite form of hypnosis, I think. Grouse fever

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Tillamook Replants

A $10,000,000 reforestation project—the biggest in the history of the Western Hemisphere—will start this winter in Oregon's "Terrible Tillamook Burn" area where 460,000 blackened acres are due to be rehabilitated

By GORDON A. SABINE

THE biggest woods rehabilitation job in the history of the Western Hemisphere—perhaps even of the world—is being tackled this winter by the Oregon state forestry department out in the fir-rich Pacific Northwest.

It's taking place on the Tillamook Burn, an area which in little more than a dozen years has been swept by three great fires. It extends over 311,000 acres, 485 miles, and it is characterized by fire blackened snags and rotting logs.

Oregon forestry specialists have been making preparations for the gigantic planting job for several years now, and it's understandable that they have had to overcome difficulties on so large a project. Nature has to be given a boost to overcome the ravages of those three searing fires, and if the blackened land were to stand idle too long, its productivity would be lost forever.

Tillamook burned in 1933, again in 1939, a third time in 1945. The first fire alone destroyed more than twelve million board feet of timber —nearly as much as was cut in the entire United States the previous year. Damage reached a half billion dollars.

But even at tremendous cost, Oregon's forests must be put back into production soon. This state still cuts more timber every year than any other state, but 50 billion board feet have been taken from her lands in just eight years, and even massive supplies dwindle in the face of such onslaughts.

The third Tillamook blaze caused such public outcry against the waste of state forest lands that the governor appointed a citizens committee, and asked for a study of the entire forest situation. In 1947, that group recommended rehabilitation. In the same year, the state legislature passed a severance tax measure, charging operators five cents a thousand board feet, with forty percent of this money earmarked for research on reforestation.

With $110,000 a year research funds, Oregon foresters made meticulous studies of the job ahead. Then in the 1948 election voters approved a bond issue providing an estimated $10,000,000 over a period of fifteen years for rehabilitating 650,000 acres of state-owned forests.

Much of their research was directed toward developing techniques for relatively inexpensive aerial seeding. Seeds sown from the sky cost only a third or a fourth of the $20 an acre it takes for hand-planting seedlings, so the work has been worthwhile.

Natural regeneration takes something like eight pounds of Douglasfir seeds an acre. A lot of these, of course, fell on unsuitable ground or were eaten by rodents. So the foresters tried to control where the seeds fell, and also to eliminate rodents from areas to be seeded.

Through extensive airplane and helicopter tests, they discovered that aerial seeding should be successful if used on carefully selected plots—ground with mineral soil, a north or northeast exposure so there wouldn't be too much sun, cover not too dense so beginning growth wouldn't be smothered.

Helicopters now are preferred to fixed-wing planes, because the aerial "eggbeaters" can fly more slowly and can change altitude more easily to conform with varying topography. The seed is carried in two large hoppers, one on each side of the pilot's cabin. He flies sixty miles an hour, in wind of not more than ten miles an hour, and spreads sixty-foot wide swaths of seed at an average rate of four acres a minute.

Poisoned bait is spread before the genuine planting. It consists of wheat grains impregnated with sodium flouroacetate or thallus sulphate, which either kill the mice or leave them sterile. The wheat is dyed green, so birds won't see it.

There was a tendency for both dye and poison to leach out during Oregon's heavy rains, but researchers discovered that a bath in Wesson vegetable oil preserved the dye, and an ultra-thin coating of shellac kept in the poison.

The seed requirements of this job are enough to stagger the imagination. Total orders will be for something like forty tons, totaling about seven billion seeds. The first year's order was for a mere six tons, but these 12,000 pounds were more than all the seed firms of the Pacific Northwest combined ever had bid on before. It's more than will be sown this first winter, for 1949 produced

Millions of seedlings like this—the result of aerial seeding—are part of the production pattern

Most dramatic phase of the job will be seeding operations by helicopter

the first good seed crop in eight years, and the foresters are stealing a trick from the squirrels—they're laying up an extra supply against a bad year. Excess seed will be stored in a newly-constructed "zero room."

The state nursery near Corvallis, Oregon, is now raising a minimum of a million two-year-old Douglasfir seedlings for the program, and eventually this figure will rise to a minimum of four million baby firs a year. These will be needed for just less than fifty percent of the area to be rehabilitated, where soil content, slope, exposure, or cover type are unsuitable for sky-sowing. Some fifty million seedlings will be used before the program ends.

One reason Oregon forests can be regenerated now is the great amount of salvage logging which has cleared debris off the forest floor and reduced the fire hazard in the Tillamook Burn since its previous blazes. After 1933, operators figured they had only ten years in which to beat the insects to the vast amount of solid timber left standing. Performance has shown that this estimate was highly conservative—several companies now work steadily in the burn, and foresee at least another decade of profitable cutting.

As the investment in rehabilitation rises, this increased value of the woods will receive increased insurance—greater protection.

The plan now is to have fire corridors and an endless system of roads cutting the area into units no larger than 10,000 acres apiece. Any spot in the burn should then be within sixty minutes' driving and walking time of fire fighters from the nearest guard station. Salvage logging already has done part of the job—in one area of only 300 square miles, there are 400 miles of access roads. With speed essential in keeping fires small, the state has mobile radio telephones in all its moving equipment and in forest warden stations and state headquarters.

What's left in the burn today is quite a mess. There are jams of rotting logs in most streams and gullies. An estimated eight million blackened snags dot hillsides and scar the skyline. In seven acres of every eight, scarcely a single Douglasfir has taken root in more than a decade.

But bringing back these forests means a lot to Oregon. Three of every five industrial workers in the state are engaged in logging. The industry provides an annual payroll of some $400,000,000. And as Gov-

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Part of three million seedlings to be planted in Oregon in 1950

Under present plans, future fire protection will be greatly enhanced by fire corridors and a system of roads, cutting replanted areas such as this (above) into 10,000-acre units. First step, however, is to reduce present hazard by clearing the area of usable logs—a profitable salvage operation (below) that has been in progress for a number of years—and which is continuing

Courier Journal & Louisville Times

C. D. Dosker—looking to the future

Getting the Most Out of Wood

If we look upon wood as an engineering material, says C. D. Dosker, president of Gamble Brothers, we will be well along the road to conservation's goal of complete utilization. Here is how his plant meets the issue

By NORT BASER

"THE woodworking industry is suffering from grandpappy-itis!" says C. D. "Bob" Dosker, president of Gamble Brothers in Louisville, Kentucky. "Grandpappy figured out a way to do things long ago, so any new approach to the problem, even in these times of rapid change, is regarded as rank heresy," he explains.

Dosker admits that Gamble Brothers got its start back in grandpappy's day, too—when high-grade hardwood was cheap and plentiful, and waste didn't seem important. "The company has been manufacturing dimension lumber and machined wood parts for fifty years, but new techniques, plus the realization that wood is an engineering material, have kept us young," asserts Dosker. "We aren't living in the past. Our eyes are wide open and looking to the future."

Gamble Brothers' management looks upon wood in a much different light than most of its competitors. It bases its business on utilizing lower grade lumber, eliminating its defects and gluing to form clear grades to the customers' specifications. Dosker claims his men can make a prettier cabinet door, stronger bridge timbers and boat keels, or more durable bowling pins from laminated pieces cut from No. 1 and No. 2 common lumber than similar products being made today from choice solid timber.

Because such techniques are contrary to staid woodworking practices, Dosker's claims are hardly accepted enthusiastically in all quarters. But he convinced the Navy by helping solve its wartime boat building headaches, and the Gamble Brothers' peacetime wares are finding a ready market. The company rarely makes a complete product, concentrating rather on furniture parts, shoe lasts, wallpaper printing rolls and similar items. Frequently customers have to be convinced laminated products can meet their rigid specifications. For instance, the wallpaper printing industry was highly skeptical, but now it buys a great many of its rolls from Gamble Brothers.

Certainly Dosker and his employees are not guilty of taking wood for granted. From front office to the far reaches of the shop, they have learned the mechanical properties of the raw material with which they work, and they are awake to its engineering possibilities. This knowledge has spurred studies on getting maximum utilization from every stick

A PT boat stem of laminated white oak being clamped into a jig. This was one of Gamble Brothers' many war-time activities in collaboration with the Navy

of wood, and the findings have practically turned Dosker into a crusader for conservation.

"After all," he points out, "improved utilization is true conservation. If all users of hardwood could improve their utility by five percent, forest drain would be immediately in balance with growth."

Not that Dosker is pessimistic about future timber supplies. He isn't alarmed that in the postwar period growth in hardwood forests has lagged an estimated two billion feet a year behind drain (including fire and disease as well as lumber production). He believes that a return to a normal economy, plus improved forestry practices and better utilization on the part of industry, will balance the scale.

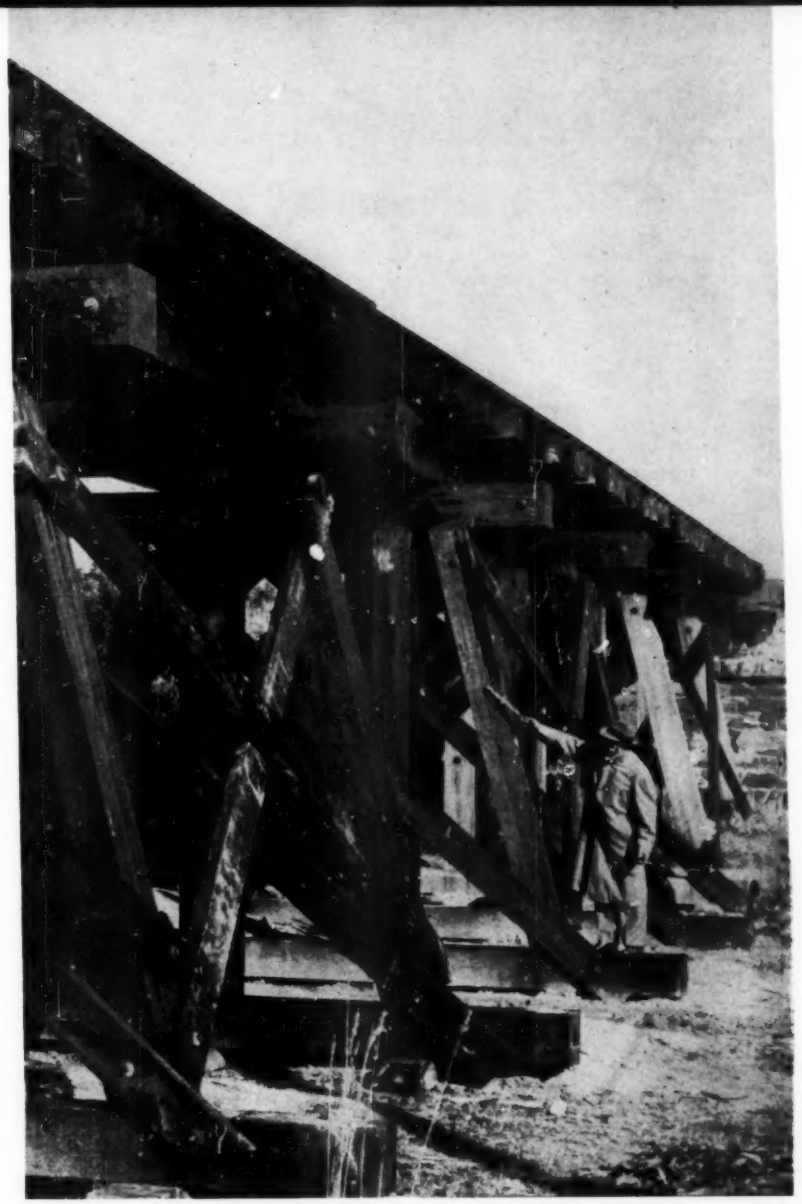
But he warns that for at least the next twenty-five years the bulk of hardwood will be second-growth. And second-growth timber produces a high proportion of low-grade lumber—more than half of which is No. 2 and No. 3 common. The woodworking industry has been fearfully aware of this trend in recent years, but Dosker points out that "it should be no great problem for those willing to study this kind of lumber and learn how to use it to best advantage."

In fact, Gamble Brothers already uses half as much No. 2 common lumber as it does No. 1 common in its plant operations. Its utilization studies prove that many jobs can be done as well with the cheaper lumber, so why waste raw material? But let's take a walk around the Gamble Brothers plant for a closer look at some of Dosker's pet theories in operation.

On the railroad siding in the yard you will note a couple of cars being loaded with lumber. "That lumber is too good for our needs," volunteers H. C. Moser, company vice-president in charge of manufacturing. He's a graduate forester who was formerly with the U. S. Forest Service. He explains that since a mixture of grades is found in lot purchases of lumber, Gamble Brothers re-sells the top grade not needed for its products.

Much of the nearly seven million feet of lumber Gamble Brothers uses each year is supplied by its branch plant at Montgomery, Alabama. There lumber is kiln dried and rough converted before it is shipped to Louisville. Thus the company avoids paying freight on waste and water.

Throughout the yard one observes that all lumber has been separated as to species, grade and length. This is the first important step toward maximum utility, for selecting the wrong grade or length of lumber can prove costly. In its business of manufacturing parts, Gamble Brothers must quote a price before an order is cut, and thus it is necessary to have a thorough knowledge of lumber and its yield when converted into specific parts. Experience has proved that a three percent error in utility of raw material results in a loss.



Gamble Brothers made stringers and columns for this bridge from laminated and creosoted yellow pine. It has been in use since 1945 near Alexandria, Virginia

Thoroughly seasoned wood, a must in Gamble Brothers' operations, is further assured at the Louisville plant by four dry kilns capable of 32,000-foot loads each. There are also two progressive kilns in which air dried lumber is transformed into seasoned stock as it moves slowly from entrance to exit.

Now you are ready to enter the cutting room, heart of Gamble Brothers' operations, where lumber is cut to meet customer specifications. As Moser points out, "Sawyers can make or break you, so we keep them on their toes by weighing the waste from their saws before it is burned." Through continued studies, Gamble Brothers has a reasonably accurate gauge of the amount of waste allowable in the wood box on any particular job.

In fact, Dosker has gone a step further. He employs a head sawyer whose sole job is to go from saw to

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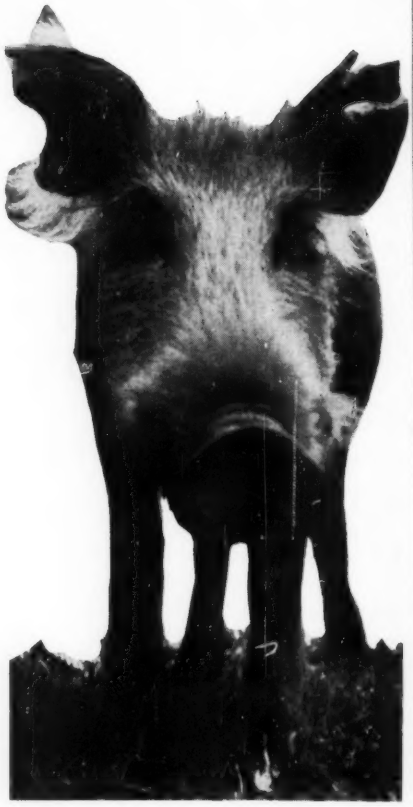
Hog Dog!

By WALT HOPKINS

When a farmer of the Louisiana bayou country wants bacon he heads for the woods. Whether he gets it is likely to depend upon the savvy and shiftiness of his hog dogs



Hog dog psychology consists of goading a meat hog into such a state that he blindly pursues the dogs right into captivity

DID you ever hear of a hog dog? Few people have, and that isn't right. He's well worth knowing. In the swamps and forests of the Louisiana bayou country, where hog hunting is a business as well as a sport, a good hog dog is on a par with a top coon hound. He's the keystone of the woods hog industry—every bit as important to the woods hog raiser as the cow pony is to the cowboy. So let's briefly explore the woods hog business and this remarkable hog dog, and then go on a real hog roundup—Louisiana style.

The hogs that roam the unfenced woods of Louisiana number in the thousands, and nearly every one of them has an owner. The hog raising system and its product, however, would make a Midwest farmer blanch with horror. The hog is usually small, often stunted, of questionable ancestry, ugly even for a hog, poor in conformation, and seldom fat. He's likely to be any color from white to yellow, blue, gray, spotted, or black.

His livelihood depends almost completely on his ability to scrounge for himself, for he usually is born in the woods and lives there until he dies or is caught and slaughtered. His chances of dying are excellent. Cholera, foxes, wolves and parasites all assail him, but perhaps his greatest enemy is starvation. He rarely gets any feed from his owner. The oak mast in the swamps and stream bottoms nourishes him in fall and winter and sometimes into spring. When that plays out, he heads for the pine uplands, where he uproots longleaf pine seedlings for the nourishing bark on their thick taproots and otherwise tries to make shift until the next mast crop.

It is the hog's ability to destroy a half acre of longleaf seedlings in a single day that accounts for the mortal antipathy which foresters hold for him. His other human enemies are motorists, who object, often in the most blasphemous terms, to his leisurely and haphazard ways of crossing busy highways. The hog owner, however, is a motorist only occasionally and hardly ever a forester or tree farmer. His views are accordingly much more tolerant.

He knows that many of his pigs die before they are a year old and that the rest do well to arrive at 150 pounds in two years. He admits that he would probably gross more by keeping his hogs at home and feeding them.

But, he wonders, would he net more per animal or per year by such management? He might, but he'd miss out on a lot of fun, and more of his efforts would fall under the classification of work. As it stands, he usually has too few acres in cultivation to raise hog feed. There is little point in building up blooded herds when his animals mix freely with others, and he has some grounds for suspecting that blooded animals would not fare so well in the woods as mongrel pigs. In good years the system earns the owner money, in poor years he can do no worse than break even. Why try to make more money and introduce the chance of losing? So he lets his hogs run unfenced, and when he wants some bacon he whistles up his dogs and starts for the woods.

Down through the years the hog dog has developed into a rather distinct breed—but you won't find him in any directory of the family *Canidae*. He's not a show dog and he has no pedigree. He is medium-sized, smooth and short haired, and varies in color from dark brindle to gray tan. Sometimes he's spotted and glass-eyed. A dog of the latter type is often called a "Catahoula leopard," after the Louisiana parish where he originated.

Regardless of his eyes and color, the hog dog is fast, smart, quick, cagey and shifty. These assets are very important. His business of rounding up range hogs is not easy, for a range hog is a tough character, quite willing and extremely able to give battle when molested. In fact, the smart dog makes use of the hog's savagery in the roundup.

Range hog raisers have small catch-pens in the woods for holding, marking, cutting and separating their hogs. You might expect the dog to chase the hog into the nearest pen, but he doesn't. The hog chases the dog into it! A good hog dog simply antagonizes the hogs until they chase him, and then he leads them into the pen. This is tricky business. Agility is essential. If the dog were unable to dodge and change course quickly in rough, brushy country, he wouldn't last long. His quarry, intent upon destruction, are well equipped with tusks to rip a dog to pieces. Thus the dog is constantly placing himself in a tough situation. He has to come close enough to anger the hogs into chasing him, yet at the same time keep a safe distance.

If the hogs try to give up the chase, the dog will turn about, bark, snap and possibly do a bit of nipping. Then away they go again toward the pen, the dog leading the way. Sometimes dogs will be worked in pairs. As they lure the hogs toward a pen, they get their cue as to direction of travel from their master, who walks behind the hogs. If he veers to the left, the dogs will go to the right, always keeping the hogs in the middle. Once the hogs and pigs are in the pen, the dogs keep the hogs "bayed up" until the owner shuts the gate. Then the dogs jump out of the pen, or duck out just before the gate is closed.

At this point the hog owner takes over and marks his pigs. Range hogs are not branded; instead, they are marked by cutting slashes and notches in their ears. Every hog owner uses a different mark. Then he makes "shims" out of the "hims" and bobs their tails. When these fellows grow up, they are called "meat-hogs." The tail bobbing permits the owner to distinguish between a meat-hog and a boar from a distance. The sows, boars and newly marked pigs are turned back out on the range. Mature meat-hogs are held in the pen, and at the end of the day are taken home for farm slaughter or to a nearby livestock auction.

Now, shall we go on a hog roundup? It's a lot of fun—something like a fox-hunt, only there's pork at the end of the trail. Be on your toes though, and be ready to climb a tree or two before the day is over. This southern woods hog isn't so dangerous as the European wild boar, but don't take him for granted. He won't attack a man unless he's cornered or pushed too hard—but then, it's a different story. Only the foolhardy will accept the challenge of an angry meat-hog, so keep your distance and a tree handy.

At daybreak, we meet two woods hog growers, Wyatt Nugent and Dutch Futrell, at the edge of a large hardwood bottom. Futrell is the owner of two excellent hog dogs, both very well trained. Blackie, the older, is conservative. His actions are a bit slow, but positive. The younger Nig is well past the novice stage in hog-doggery, but he's still the pupil alongside the more experienced Blackie.

It's a typical Louisiana winter day—gray, damp and cloudy. The weather isn't really cold, but you are. The best way to stay warm is to keep moving, and as soon as introductions are made, Futrell heads out with his dogs at his side. We follow. After he has gone a few yards, he says, "Go get 'em!" The dogs immediately start out in separate directions.

A few moments later Blackie starts barking, and Nig leaves his own search and joins him. They have bayed two brood sows and six pigs

Once hog-tied, earmarking a range hog is comparitively easy. But getting the porker's feet tied and a noose around those slashing tusks isn't.

Photo by U. S. Forest Service

in some dense brush. From quite a distance, Nugent and Futrell identify the sows' earmarks as those belonging to a neighbor (each hog owner knows his neighbor's mark and respects it). Futrell blows a short blast on a small bone horn and the dogs leave the hogs and return to his side. Then he sends them off again. They are so well trained that they ignore the hogs just bayed. Too bad these dogs can't read earmarks. Each hog raiser owns only a fraction of the hogs roaming any given range and a lot of time is wasted in baying up the other fellows' hogs.

Soon the dogs locate several sows. These belong to Nugent, and one of them has not been earmarked. There is no pen nearby, and as there is only one hog to mark, the dogs are told to catch her.

Here again, the dogs prove their mettle. They wait their chance until one of them can approach the sow from the side. They bark and they feint. Pretty soon, the sow darts at Blackie and Nig gets his chance. He grabs one of the sow's ears. Blackie returns and catches the other ear. Then Nugent grabs the sow's hind legs and throws her on her side. Futrell gets astride the hog and holds her head down. The dogs release their hold. Out comes Nugent's pocketknife, and a few moments later the hog is released and on her own again—with a brand new set of ear notches.

At this point we run across Bill Cox, one of Nugent's neighbors, who also has some hogs in these woods. He joins our group and we go on. A short time later the dogs find a large old meat-hog and corner him in a partially hollow standing tree.

This hog has Cox's earmark. He's about five years old—much older and larger than most wood hogs. There're 250 pounds of pork there if we can catch him, but he's a real villain. His sharp tusks are more than two inches long, and he knows how to use them. Indeed, he constantly reminds us of the fact by grinding his teeth—or rather sharpening his tusks. The clicking and grinding sounds as if he is cracking rocks in his mouth—and this forbidding noise can be heard above the dogs' barking and our yelling. It tells us better than words that corralling this fellow is going to be a challenge.

Blackie and Nig keep the hog bayed at the tree, but they also respect those tusks and hold their distance. Both of the dogs have deep scars earned the hard way during their apprentice days. Every now and then the hog darts at one of the dogs, but quickly backs into his improvised den again. He isn't going to be taken from the rear if he can help it!

This hog is too wild and too dangerous to pen. He will have to be roped, but we can't do it while he's backed into this tree. One of us or one of the dogs might get hurt. and no hog is worth gambling a good hog dog. Futrell calls off the dogs and the hog attempts to run away. After he has gone about twenty yards—far enough so that he can't conveniently get back to the hollow tree—the dogs are again released. This time they corner him by a large log. As we approach, everybody has his route of retreat spotted, and we silently hope we haven't all selected the same tree as refuge if the hog gets the upper hand.

The hog has backed against the log, but here he can be roped. While the dogs keep him bayed, Nugent climbs up on the log to distract him some more. Now the hog is pretty well preoccupied. He's clicking his tusks and snapping at the dogs, but fortunately he remains backed against the log.

Meanwhile, Futrell has attached his noosed rope to a stick about twelve feet long. A two-foot noose hangs at the end of the stick. Thus while the hog is watching Nugent and the dogs, Futrell reaches his noosed stick over the log, and dangles the noose in front of the hog's head. After several tries, he gets the noose around the hog's neck and pulls the rope tight. The dogs back out of the way, but they stay ready to take over if something goes wrong. Nugent jumps off the log, and he and Cox run over and throw the hog. Futrell continues to keep the rope taut, and we all pray it won't break. While Cox holds the hog down, Nugent takes a cord out of his pocket and ties all four of the hog's feet together. Then, carefully, he slips another noosed cord around the hog's snout above the tusks, tightens it, wraps it around several times, and ties it. After that, Futrell releases the tension on his lariat and we all relax. The dogs are unharmed, and so is the hog. He just can't move or open his mouth—he's hog-tied!

Cox gets astride his horse, towing the hog behind. We follow along. When he gets home, Cox drags the hog into a small corral, unhitches, and takes the horse outside. Nugent unties the hog's feet but hangs on to his hind legs. Then Cox unties the cord around the hog's snout, scampers over the fence, and Nugent releases the hog. He gets up, shakes himself, and charges the fence, but to no avail. Except for being a bit bald on one side, he's none the worse for the trip.

His journey behind the horse is over, but as he needs to be "firmed up" and can stand to be fatter, he still has about three weeks left to live. He will now be penned with a "pet hog," a domesticated porker who will introduce him to a delightful new sensation—that of eating corn. Experience has shown that hogs brought in from the woods won't eat this delicacy unless a pet hog shows them how.

This ends the hog hunt. We thank the men for the experience and promise to return soon for some sausage and pork chops. As we pass the house on our way to the car, we see the dogs sprawled out on the front porch, enjoying a well-earned rest. Blackie opens one eye briefly as we go by, then sighs tiredly, settles his head a little more comfortably on his front paws, and dozes off again.

A hog roundup is a lot of fun—something like a fox hunt—except that there's pork at the end of the trail. But you have to be on your toes

The Lord's Trees

By HOWARD MENDENHALL

THE popular hymn which invites everybody to "come to the church in the wildwood" takes on new meaning when sung by the members of the Friendship Methodist Church near Gum Tree, Pennsylvania. Not only is their church in a "woods" but they hope to have some of that "woods" in their church.

For the past seventy-seven years the present frame church building has been serving its congregation. Trees in the woods that circle the church have been growing for an even longer period. They, too, have served the congregation by providing shade for picnics and summer vesper services, shelter from wintry winds, and even as a refuge for small boys who dare to risk cutting a Sunday School now and then.

Now there is a crisis to be met and some of the old trees in the surrounding woods are coming to the rescue.

If all 213 members of the church should attend some Sunday there wouldn't be enough pews to go around. Even the 110 regular members in attendance crowd the church. Something had to be done. So the members decided to make more room.

Pastor Lewis C. Leaming and the trustees appointed a building committee and Chairman Paul L. Coates was given the job of making the plans, raising the money, and erecting an addition.

Making the plans was easy for Church Architect Charles Bolton. He submitted drawings for a thirty-two-foot by seventy-foot addition containing a social auditorium, Sunday School rooms, a new kitchen, space for enlarging the church auditorium and space for a new chancel and electric organ. The front would be graced with a pillared porch and a steeple.

"Fine," said the committee, "just what we want."

"How much?" queried one somewhat more practical soul.

"Forty thousand dollars" was the answer.

For a small country church to raise this sum of money seemed fantastic! But the committee had seen what it wanted and said, "We'll get it or else." In two weeks' time, with the help of Dr. Albert Adams from the finance department of the Methodist Church in Philadelphia, a fund-raising campaign netted $38,000 in pledges. More than half of this has already been collected, thanks to the system of collecting weekly pledges. Thanks are also due to good weather which allowed the young peoples' group to earn most of its $500 pledge by growing four acres of tomatoes, and which has favored attendance at church suppers and other money-raising affairs.

With half the money in the bank, the committee approached Contractor George Gill about the construction. In the course of the preliminary discussions came the inspiration for getting the remaining $1,500 needed but not yet pledged. The frame construction called for lots of lumber. Several of the larger trees in the woods around the church were going to be cut to make room for the addition. Therefore, reasoned Chairman Coates (who is also president of Woodland Products, Incorporated, a local farm woodland owners' co-operative) "Why couldn't we use our own lumber?"

When it was figured out it was found that 20,000 board feet of local lumber could be used. If bought on the open market it would cost ninety-five dollars a thousand board feet or

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Under Forester Jimmy Hamilton, the men worked in pairs, one digging the hole, the other planting the seedling

Log Rolling in Reverse

By A. K. THURMOND

THEY do not work for pay, they expect no immediate personal returns—and it costs the landowner not one cent. That's the way tree planters in Benton County, Tennessee, operate. Groups of community-minded men in this valley county have organized themselves into tree-planting crews and are reforesting gullied lands, farm by farm. Some of the older tree planters, those who took a hand in clearing these same lands for high-priced cotton and corn during the first world war, call it "log rolling in reverse."

This section of the state slopes north and east toward Big Sandy Creek and Kentucky Reservoir. The land rolls gently, but the topsoil is windblown loess and the subsoil is sandy—both mighty susceptible to erosion. Row cropping is risky and heavy rains can start a chain reaction that ends in gullies, mud-filled stream beds, flooded bottomlands, and silted reservoirs. State and federal conservation agencies have joined the landowners in their fight to check this destructive cycle and to reclaim depleted soils. Idle lands are being put back to work growing trees for watershed protection and timber production.

Beginning on the headwaters of Cotton Creek, residents of Divider community volunteered to plant pine trees on the gullied lands of Widow Kee's farm. During his lifetime Doss Kee hadn't put much stock in tree planting; he wouldn't let the CCC boys set out pines on his place. His widow inherited twenty acres of woods, fifteen acres of bottomland and about forty acres of gullies, some of them deep enough to hide a mule.

But Julie Kee and her son, Henry Ford, have a different notion. They noticed how CCC-planted pines on their neighbor's farm had stopped erosion and healed the scars. "Besides," Mrs. Kee says, "you can't sell gullies for very much, even in these days."

So she invited the community tree planters to begin with her place. They came one morning bright and early—thirty-five neighbors shouldering their picks, crowbars, shovels, and homemade planting tools. Farmers are good tree planters. The only instruction they got was "plant them just like you would tomato plants." By late afternoon the job was half done; twenty acres of the Kee gullies sprouted a green rash of pine seedlings.

Over in Post Oak community on Lick Creek, folks are in the habit of working together. With their own

Community-minded men in Benton County, Tennessee, have organized into tree-planting crews in a fight against erosion.

hands they built a red brick church two years ago and they are quick to tell you it's all paid for, including the wooden benches and big wood stove in the center aisle. But they invariably apologize for the setting because the church is surrounded on two sides by gullies, almost as far as you can see. The Women's Missionary Society never did like the view, so when they heard about the tree planting in Divider community they began talking to their menfolk.

Solie Wiseman, age seventy, owns the land adjoining the church site and he was agreeable to having it planted. In fact, he has always been more of a timberman than a farmer, having cut crossties most of his life. "When I cleared this land in 1915," he said, "I made my corn rows long as possible, straight up and down the hill. That was a mistake. Guess if I had it to do over again I'd leave my hill land in timber."

Post Oak volunteers planted 20,000 trees one day and went back another day to plant more. This was a family outing with dinner on the grounds; the wives went along and served a big mid-day meal for the planters.

What prompts these men to help their neighbors plant trees? Well,

Solie Wiseman, 70, and his wife hope to see eroding hillsides green again

this is the way Leon Galbreath, one of the tree planters and owner of a farm on Lick Creek, put it: "It's a sight to go down in my fields and see the silt that's washed on them. These pines will improve the value of Solie's land sure, but they'll do more than that. They'll keep dirt out of the bottoms. They'll help every farm down below."

But in Benton County there is more to it than that. The real drive behind these neighborhood projects is James W. Hamilton, assistant county agent in forestry. Hamilton has inspired whole communities to tackle their erosion problems on a watershed basis. Backed by the local magistrates, county judge and county agent, he acts as public relations man, recruit-training expert, director and backbone of the planting crews. He is not a letter writer or a meeting holder. His approach is to get key individuals, community leaders, to say they are willing to do something about erosion. Then he gives them a job to do. "People's pride keeps them from going back on their word," he says.

Right now Jimmy Hamilton has a magistrate (justice of the peace) in another civil district recruiting volunteers to reforest eroding lands on a third small watershed. Taking the long-time view, he intends to keep on organizing neighborhood tree-planting "bees" year after year until all wastelands in the county are reforested. He plans to fly over the county, spot critical areas, and concentrate on them. According to his figures, Benton County has some 20,000 acres in need of planting. "In the past two years we've planted about a million and a half trees. At this rate." he estimates, "it'll take about twenty-five years to finish the job."

It was in January of 1947 that Hamilton, thirty-nine years old and ten years out of Purdue School of Forestry, came to Benton County. Armed with a sound knowledge of farm forestry and an Irishman's impatience to get things done, he went to work. Forest fires were commonplace. About one-tenth of the county's 152 thousand wood acres burned over each year. He persuaded the county court to match fire control funds offered by the State Division of Forestry and thus provide for countywide protection. Fire towers were built and connected by phone; mobile crews were organized, trained and equipped. Last year, forty-eight forest fires burned only 376 acres in the county. That same year, 1948, Benton County planted more trees (600,000) than any other county in the Tennessee Valley.

With Benton Countians doing something about forest fires and reforestation, Hamilton is concentrating now on woodland improvement work. Using the same door-to-door approach that worked so well with fire control and tree planting, he is buttonholing the timber operators. He explains why the county's forests are short on sawlog trees and long on cordwood. He wants the sawmill men to slow down—leave one out of every four of the best trees to swell the growing stock. He tells the chemical wood and pulpwood cutters to speed up, provided they cut selectively so as to improve the stand. He talks to farm woodland owners and suggests that during slack seasons they stockpile their fuelwood in fifty-two-inch lengths; then, if any is left over in the spring, the surplus can be sold as chemical wood.

To show woodland owners what trees to cut for what product, he holds timber marking demonstrations wherever and whenever two or more farmers are gathered together. Jimmy insists on selective cutting. By agreement with the purchasing agent of a wood distillation plant, he has virtually stopped clear-cutting of chemical wood in Benton County. On the other hand, he will travel miles to help a farmer harvest wood according to good forestry practices.

Eventually, if his gasoline money holds out, Hamilton hopes to organize a timber growers and harvesters association that will permit central marketing of large quantities at top prices. This means breaking down a lot of barriers, real and imaginary, but it would go a long way toward getting the county's forests producing maximum, sustained crops of timber.

Jimmy is full of ideas, and, like his pine trees, some of them are taking root. On rainy days he teaches forestry to Camden High School students: tree identification to freshmen, timber marking to sophomores, and timber measuring and marketing to juniors and seniors. Now, he is thinking about operating a timber treating plant in his "spare time" just to show businessmen that one is needed and that it would pay off. The plant would turn out fence posts and barn timbers treated with a chemical preservative to prevent rot and insect damage. The supply of durable wood is limited but there's a lot of gum, red oak, elm and pine in the county that would make good posts if it were treated. And the demand for

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Cooperstown Co-op

Photos by Cooperative Digest

How a New York forest products association, in an area of small woodlots and diversified ownerships, operates a large mill profitably, producing superior products

By HENRY S. KERNAN

CENTRAL New York, like so much of the East, is an area of farms and woodlots. During the last century, the farms have been profoundly modified by the demands of our urban civilization, and have become wonderfully adapted to supplying the endless stream of trucks and trains which move towards the city laden with produce.

The woodlots, however, though expanding in size and volume, have often remained something of an anomaly—a memory of the days of wood-stoves, wagons, and butter-tubs. Somewhere along the line they got out of step with the twentieth century and were neglected, sold off, or even dropped from the tax rolls. That they need not be so, that they can become an important source of wealth and employment was the faith that built the Otsego Forest Products Co-operative Association, whose efficient, well-planned mill receives a yearly cut of two-and-a-half million board feet of logs from woodlots for sixty-five miles around, each one of them pledged to good forest management. In exchange it offers the owner-members high prices and dividends; and thus brings forestry and economics to a common ground.

That this enterprise should be at Cooperstown, New York, is no surprise to the inhabitants. Each one has learned to take the unusual in stride and become half guide and half guard to his picturesque village beneath the elms and maples at the foot of Otsego Lake, where the Susquehanna starts a winding course to far-off Chesapeake Bay.

The history and wealth that almost crowd this pleasant town would be the envy of many a fast-driving, hard-hitting city of fifteen times the size. Here General Clinton camped before his march to the West; and here baseball began its career. Here the world's idea of the American frontier was formed in the brain of a hearty, bluff squire named James Fenimore Cooper. His quaint *Leatherstocking Tales* fell out of favor with the buggy and bustle, but not before Cooperstown had become famous from China to Peru.

More important to the association, however, is the attitude toward co-operative marketing of the 3,300 woodland owners who live in the area. Nearly a third are members, and together have brought some fifty million board feet of sawtimber on 35,000 acres into a common endeavor. They are principally farmers whose chief interest is the price of eggs and fluid milk in New York City. The most prosperous of them cultivate their fields of rich valley land along the Susquehanna, the Butternut, and the other streams which converge at the tip of Otsego County like vanes of a giant fan. Between are broad shale ridges whose upland farms, once cut into hopyards and sheepwalks, are now in the process of abandonment. With each farm goes a woodlot, typically covering about thirty acres with dense, slow-growing northern hardwoods such as hard maple, beech and birch. Hemlock is also found in abundance, and occasionally stands of white pine. The large areas of brushland and seedling growth indicate that agriculture is still changing but are of little present concern to the lumber industry.

Into such a pattern of woods and fields the Co-operative Association has been endeavoring to adjust itself since 1935 when it was incorporated with the avowed objectives of orderly marketing of forest products and better care of woodlands in order to promote a higher welfare among farmers.

Since the mill began to saw eight and a half years ago, a fair measure of success has been reached on both counts. Any woodlot owner may partake of this upon rather liberal conditions. He must first of all agree to a financial stake in the venture by buying five dollars' worth of stock and by marketing his sawlogs only through the association. In addition he must promise to care for his woods according to its standard rules.

In return, the advances granted to members for their logs after careful scaling and grading compare well with prices offered by other mills, especially in view of their share in the extra profits over regular dividends. Ninety-five percent of such advances are in cash and five percent in stock. Field men will aid the member in any problems of forestry and logging that may arise; while regular crews can take over any or all parts of his woods operations. At the annual stockholders' meeting a member's single vote is equal to that of any other member. He also receives the *Otsego Forest Co-operator*, a bi-monthly publication which serves to keep interest alive and carry the for-

estry message by the force of repetition and graphic display.

A further privilege is that of buying lumber at wholesale prices—an item of real importance to the dairy farmer whose needs for building and repair are recurrent. The 600 thousand feet thus returned each year to the members prove the popularity of this feature.

On the whole the member gets a fair bargain—far better than that offered by the swarms of portable mills that dot the countryside, over a hundred of them in Otsego County alone. Too often they are poorly set up and poorly powered. Seldom have they the equipment or the skill to make the most of their logs and turn out a well-sawed, well-graded product. As a result the markets they can offer are too unstable for that orderly program of conservative cutting sustained year after year which is so necessary for the best yield from a farm woodlot.

Those who first planned the association hoped that a large amount of such annual cutting might be done by the members. They were familiar with the dairyman's life and knew to what extent it follows a pattern of precise chores varying only with the season of the year. From the spring plowing to the last of the hog butchering, the farmer is busy with the stock and harvest from dawn to dark; but the winter schedule leaves several hours a day between milkings free for work in his woods. This can be very profitable if figured on an hourly wage basis because not much extra money need be spent on tools and because the woodland is part of the farm whether used or not.

Actually the number of members doing such work has varied with the economic cycle. At times shortage of labor and the rising incomes from high milk prices have brought member logging nearly to a halt. Therefore two full-time logging crews had to be organized to insure a steady flow of material to the mill. Nevertheless the opportunity for member logging is provided and encouraged. A farmer can earn several hundred dollars a year in an average woodlot. Let the price of milk drop ever so little and he will soon be filing his saw and eyeing a tree to cut.

Upon this tree depends the Co-op's forestry program as outlined in the "Standard Forestry Methods" adopted by the Board of Directors and accepted by every member. They are based upon a system developed by the U. S. Forest Service with an eye to the northern hardwood type, whose outstanding feature is the ability of the principal member species to survive in the shade. The aim is an all-age selection forest wherein trees of all sizes are found on a given area. Marking removes first of all the mature trees from which no adequate growth can be had, and secondly insofar as possible, those of poor form or species. Growth is thus concentrated upon the best trees, those thrifty straight maples, ashes and basswoods which mean an increasing yield of good-quality sawlogs.

In practice this theory of management must be adapted to the varying needs of the owner and woodlot in question. Although ideally a cutting cycle of five years is proposed, volume harvests made every fifteen to twenty years are often necessary. Also in overmature stands or those with an excessive amount of defective timber, even heavier cuttings are obviously needed. In such cases a diameter limit is likely to be set, though never below fourteen inches. The marking is ordinarily done by two field men who also act as logging engineers.

The result is a system of practical forestry neither especially refined nor especially intense; but tailored to the needs of the present and balanced against those of the future. Perhaps its greatest achievement has been to prove that selective cutting is practical in northern hardwoods. Among members it seems to be the best-liked activity of the association and undoubtedly has brought about a better handling of their woodlots as compared to those of non-members. Moreover the impact upon the general public has been considerable. Few landowners are so dense or so isolated that they have not at least heard of the policy. Forestry is spreading in the county, though in this regard honors must be shared with the state and federal foresters at work.

Yet the term selective cutting has a certain weasel-like undertone. In theory it balances the economics of logging against the silviculture of trees. In practice the line between it and high-grading tends to become blurred, especially where the marker is also the logger. The immediate result has been that for several years the Co-op's handling of quality logs on a volume basis has been outstandingly successful. On these terms it has met, and possibly solved, one of the knottiest problems of American forestry: it has operated profitably a large, efficient mill producing superior products in an area of small woodlots and diversified ownerships.

One still may question, however, whether any forest policy in our northern hardwoods will in the long run be satisfactory that does not make provision for eliminating the quantities of low-grade trees inevitably produced in the normal course of their development. To achieve a sustained yield of quality as well as quantity is the second toughest prob-

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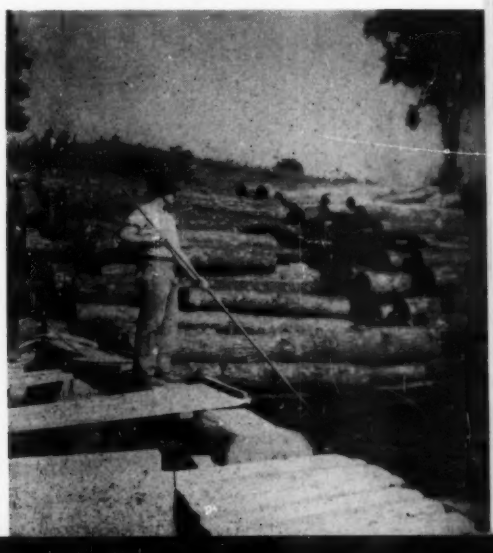
This cooperatively operated sawmill cuts 2,500,000 board feet a year from woodlots within a radius of sixty-five miles from Cooperstown, New York

The log pond and rollway is a busy reception center for members' logs



Ants in Their Plants

Carpenter ants are dairymen from way back. Of late they have been turning their aphis herds loose in Washington tree farms. The aphis graze on the young Douglasfirs and the ants milk the aphis. But it's mighty tough on the firs

By HAROLD OLSON

PACIFIC Northwest tree farmers thought they had timber crop risks pretty well calculated and cataloged until carpenter ants moved in with their aphis dairy herds. Now tree farmers may have a brand new problem, and it could be serious, too.

It's a nice arrangement these ants and aphis have. Carpenter ants are dairymen from away back, so it was only natural that they should move their aphis herds into pasture when they spotted the tree farms. The aphis, plant lice to some folks, suck juices from the young firs, then the dairymen ants come along and milk them. It's a system that's been going on in the insect world since the beginning of time. The aphis take to the arrangement like contented Holstein cows do to barnyard domesticity.

The carpenter ants — they're the big black fellows that so unerringly search out sweet stuff on the pantry shelf and occasionally even bite the baby—have been there for decades or even centuries but it was not until late in 1946 that foresters detected seedling damage as a result of their work — and the "grazing" of their aphis herds. Just how serious the insect damage may become hasn't been determined, but the ant-aphis combination has already demonstrated an ability to kill baby firs on at least three Washington tree farms.

This tiny Douglasfir in Washington is in the path of the ant-aphid drive

In warm weather carpenter ants stake out their aphis herds on the upper trunk or new side shoots of conifer seedlings. The aphis, which scientists know as Cinara, puncture the tree's tender bark with their long needle-like proboscises and pump food juices out of the baby tree's bloodstream. Aphis transform the tree juices into a clear, sweet, nourishing substance called "honey dew," that the milkmen ants collect.

Carpenter ants — their scientific name *nitidiventris* means shining belly—rub their antennae along the aphis' bodies to milk the "honey dew." Like the good dairymen they are, ants never miss a milking.

When fall comes, the ants round up their aphis herds and carry them in from their tree limb pastures to weather-tight, fir needle barns built around the base of the little tree. It's there the aphis spend the winter.

While carpenter ants are mighty careful about caring for aphis, they're completely careless about the trees their herds feed on. Within and around the nests ants score and rout the bark—sometimes actually girdling a tree at the root collar. That's where the danger lies and that's what kills the small trees.

Tree farmers wish ants would show just a fraction of the care for the trees on which aphis feed that they show for the aphis themselves. Nothing is too good for a contented aphis cow, it seems. When danger threatens, ants lug the little insects to safety. Ants even nurse the baby aphis with maternal care. It's easy to see why the aphis submit so willingly to captivity.

Encroachment of aphis-keeping ants on tree farms was first spotted by Weyerhaeuser Timber Co. foresters on the Clemons Tree Farm in Grays Harbor County, Washington. There, small hemlock trees seemed to be the principal victims. Since that time, comparable infestations have been noted in the Mount St. Helens Tree Farm plantings northeast of Longview and on the Schafer Brothers Tree Farm north of Satsop, Washington.

Two Weyerhaeuser foresters, Ed Heacock and the late Don McKeever, discovered the infestation on different tree farms at about the same time. The Clemons area, incidentally, is the birthplace of the American tree farm movement that has now spread to twenty-seven states.

The Portland, Oregon, forest insects station of the U. S. Bureau of Entomology and Plant Quarantine in April, 1947, moved in to study the situation in sample plots marked off on the St. Helens Tree Farm. Entomologists R. L. Furniss and J. M. Whiteside examined the plots in midsummer and again in October last year.

"We charted 197 trees and found ants and aphis present on seventy percent of them on two strips taken at random," Mr. Furniss reported after the check. "About thirty-five percent of the trees were seriously affected — yellowish in appearance, stunted or already killed. About five percent of the trees, most of them planted stock, had been killed."

Foresters began to wonder if they had a major insect problem on their hands when word came from the Grays Harbor country that an ant-aphis combination had built up to sizable proportions on the Schafer Brothers tree farm there. The Grays Harbor insect infestation was running high, wide and handsome on trees hand-planted in 1944. Oddly enough areas nearby seemed entirely free of insects and only a few loca-

tions can at this time be described as seriously affected.

It is the ants, not the aphis, that kill the small trees according to most qualified observers. Opinions vary as to why ants, frugal managers about most things, endanger the life of their host tree by scoring its bark. Some say they are attempting to stimulate the flow of tree juices for their aphis cows, others doubt the logic of such a simple explanation.

In any case young trees can't fight back. If the seedlings could scratch the aphis off their boughs or better still run away like the galloping firs in Jim Stevens' Paul Bunyan story there'd be no problem. As it is, few youngsters are more helpless than little trees—that's why nature provides so many of them.

"While it is too soon to draw conclusions," says Entomologist Furniss, "it appears likely that if trees get several years of growth they can withstand ant-aphis attacks. Apparently trees growing from seed scattered by nature are fair game for the aphis just like the nursery-grown, man-planted ones," Mr. Furniss declared in his report.

Entomologists say they doubt that ants and aphis can wipe out a plantation but, uncontrolled, the insect combinations can materially increase the cost of getting land sufficiently well stocked to produce a maximum timber crop.

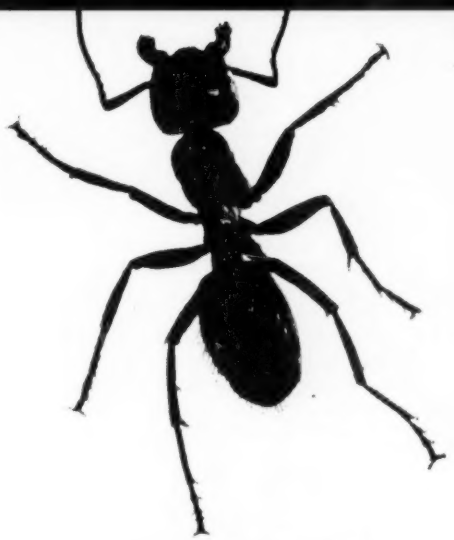
"In some plantings—we don't know yet exactly how or why—the ant-aphis partnership appears able to reduce the degree of stocking from good to medium and from medium to poor," the government entomologists reported.

That in itself is serious, for little trees have plenty of other natural enemies, to say nothing of fire and weather hazards. Cold weather last winter may have helped out the tree farmers by decimating ants and their aphis herds to a point where seedlings can hold the upper hand in the race for survival. Nature, foresters know, has a habit of whittling down insect epidemics.

It costs fifteen dollars or more to plant 600 seedlings on an acre of land. Natural hazards sometimes take a toll of ten percent; seedling trees are never out of danger until they are too tall for wild animals to nibble on and too pungent or tough for most insect pests. Then, if spared from fire, trees really begin to grow, shooting up two or three feet a year.

Fortunately only about ten percent of the land in the western Washington and Oregon area needs this type of reforestation work. The "Keep Green" programs in those two states have brought improved forest practices and fewer and fewer fires. Old burns are being reclothed. Meanwhile tree farmers are getting all their idle patches of land into full production as quickly as possible.

Spring was exceptionally late all over the north coast region this year. On the Mt. St. Helens Tree Farm seedling areas, snow had receded by mid-May barely enough to permit setting out two additional test plot plantations. Starting from scratch, these will be followed through all the way to evaluate all the many factors bearing on seedling survival.



At the time these little trees were put in, it was still so cold the ant colonies were not active, and very few ants were seen.

Entomologist Furniss said carpenter ant control in town is not too difficult, since individual colonies can be checked by several methods. But out in the woods it's different. There are just too many colonies. So far, no practical method of getting at so many of them has been worked out. Whether it will be necessary to try for some method to stop this infestation remains to be determined. By the end of this season it may be clear whether Paul Bunyan will have to break out his flit gun for these creatures.

This is what carpenter ant herds do to young Douglasfir trees

Ted Toom, left, and J. M. Hisey, Weyerhaeuser foresters on the St. Helens Tree Farm, examine damage by the ants to a young Douglasfir

Weyerhaeuser Timber Company

Grouse Are Psychic

(*From page* 13)

is no myth and seasoned hunters will attest to this phenomenon.

The lengths to which a bird will go to save his neck, when caught in a tight place, almost convince you that the rascal has supernatural powers. After an experience like the following you're not sure whether he is possessed by the devil or sponsored by the angels.

Several seasons ago Dr. Hamilton Merrill, my older son, Bill, and I were working a favorite piece of cover high up on a wooded slope overlooking the White River Valley in Vermont. Ham was using one of his younger setters, a dog who, while not possessing brilliance, handled grouse better than many dogs. At the edge of a pocket the setter made game and started trailing. It was semi-open country with thinly spaced hop hornbeams, thornapple bushes, birch and young maples. The ground was rough, a grassy moraine bottom dotted with thin clumps of hardhack and sweetfern, offering no really substantial concealment to a skulking bird.

Into the center of this pocket the dog went, hesitatingly and making several false points. Bill and I covered the outside edges and Ham followed the dog, clucking encouragement. At any moment we expected a flush; we were ready for him and it looked like a pushover. But a careful combing of that stony ground failed to start anything. We concluded that a bird had been there, flushed, and left hot scent and that was what had fooled the dog. So we went over to a sunny ledge about fifty feet away for a rest.

Fifteen minutes passed and we started off again. The phantom bird was forgotten. We had formulated a theory and that settled it; he was over in the next piece of cover. So, relaxed and completely off guard with guns slung over our shoulders, we were rocked out of our tracks by an explosion practically at our feet. The grouse had been there all the time! He had laid his campaign while listening to us talk and knew exactly what he would do and when. It was a stunning example of pure guts and it worked. The shots we threw at him were just the reflex action of some guys with jangled nerves.

Anyone who follows the grouse consistently can recall numerous examples of pure thinking on the part of smart old birds. Of course the scientists slap us down when we talk about thinking in connection with dumb critters—it's just instinct, they proclaim pontifically—but have these scientists had grouse do screwy things to them? I'm all for the theory that they do think, and the more I see of them the firmer becomes my belief. Furthermore, I don't think there's a bird alive with a better brain or a higher I.Q. Once in a blue moon you'll run across a dumb grouse. Invariably he is a young bird who is either a congenital moron—like some people—or who was willful in childhood and failed to listen to his mammy's counsel. Birds like that don't live long enough to grow up. The ruffed grouse of civilization is a smart bird; he has to be in order to stay alive. But in the wilderness it's a different story.

In remote sections of Canada and Maine, where the grouse has not learned about man's deceit, he can appear to be the stupidest of feathered creatures. He may allow one to pot him with a pistol at close range, even slip a wire noose attached to a stick over his gawky neck and snaffle him off a branch. Once, while fishing in a wilderness area, I came upon a fine grouse sitting on a log in the trail.

After studying for a moment I said, by way of making talk, "Hi, big boy, how's things by you?" I expected him to flush but he merely cocked his head and replied, "Qut, qut," hopped off the log, and waddled toward me. Again I tried to flush him, but he wasn't having any; he slipped off into the brush quietly, flipped up onto another log a few feet away and continued his scrutiny of this very queer creature who had invaded his domain.

This wasn't a Canada grouse or "fool hen"; they're expected to perform that way. It was the genuine article, a full-grown, fine gray fantail, a perfect example of the Number One Boy of American game birds. Dumb? Not a bit of it; just a simple, unsophisticated soul who didn't know the score because he wasn't under any compulsion to learn. You might wonder how such a bird would fare if suddenly dumped into one of the coverts of a civilized and thickly populated area. Very well indeed, I can assure you, and it would take an astonishingly short time for him to get the pitch. The reason I am so sure is because I had an opportunity to study the results of such a transplantation in a rural district of Connecticut where I used to live.

A friend had a thousand-acre tract of wonderful grouse country and he wanted to add new blood to the native stock. He bought wild birds which had been trapped in a remote Canadian district—through an arrangement with the conservation commission—and banded them before release. They were a fine lot of very gray grouse, as tame as barnyard hens, but soon after being turned loose their wild instinct came out. A surprisingly small number fell to vermin, and by fall they were as resourceful and tricky as any of the native stock. That experiment, to my way of thinking, adds at least a clincher to the theory that the grouse has real brains and uses them. When he gets in a tight spot he'll find a way out—every time.

The diet of the grouse is as varied as the fare of the most sophisticated gourmet, or as simple as that of an austere ascetic—depending on opportunity and season of the year. He

(*Turn to page* 40)

My Favorite Tree

Rise Stevens

Metropolitan opera star

The weeping willow is my favorite tree. My particular reason is that it seems to frame one's thoughts so perfectly. I have found some of my most peaceful moments of relaxation and thought beneath its shade, and I always think of it as a dear and trusted friend.

Oliver "Cletrac" Model FDE with Carco Winch cold decking logs with a high line.

Even when it's not busy hauling logs or building roads, an Oliver "Cletrac" tractor finds plenty of work to do. This Model FDE with its Carco Winch, for example, is hard at work cold decking logs with a high line. It takes plenty of power . . . steady, dependable power to lift heavy logs. And plenty of steady, dependable power is exactly what you get with Oliver "Cletrac." There are no sudden surges . . . no interruptions in the power flow to place undue strain on cables.

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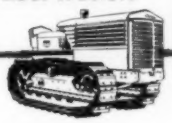


"THE SIGN OF EXTRA SERVICE"

KNOWING YOUR TREES

AUSTRIAN PINE

Pinus nigra, Arnold

By WARREN D. BRUSH

A NATIVE of Europe and western Asia, Austrian pine has been cultivated for many years in the United States as an ornamental, having been introduced here as early as 1759. The symmetrical, stout, spreading branches and thickly set, dark green needles of a well-developed tree make a handsome appearance. In its native habitat Austrian pine attains a height of 100 and occasionally 150 feet with a trunk diameter up to six feet. In the United States, however, trees more than 50 feet high are exceptional. In youth its form is pyramidal, with the slightly ascending branches arranged in regular whorls, but with age it develops a broad, round or often flat-topped head.

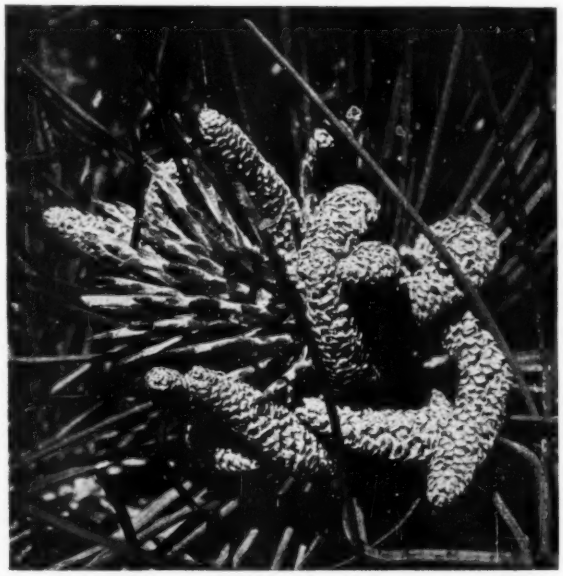
As a young tree, the Austrian Pine has a pyramidal form and in maturity develops a round, flat-topped head. The tree attains a height of 50 feet

The stout branchlets are usually yellowish or light brown and the ovoid or oblong-ovoid winter buds are light brown tinged with white, the lowermost scales loose and the uppermost bound together by white resin.

The dark green needles occur two in a sheath and measure from three to six and a half inches long. They resemble in appearance those of red or Norway pine (*Pinus resinosa*) but are stout and stiff while those of the latter are slender and flexible.

The male or pollen-bearing flowers, in clusters of three to 10 or sometimes more, are borne on the lower half of the branchlets of the current year's growth. The female flowers, bright red in color, occur singly or in twos or threes at the top of the young branchlets. They develop into small, globular cones, which ripen at the end of the second year. Austrian pine cones resemble those of red pine but are somewhat larger and usually have prickles which are absent in the latter. The mature cone is egg-shaped, stemless, yellowish brown, glossy, and measures from two to four inches in length. The end of each cone scale is depressed, conspicuously ridged, and usually provided with a very short prickle at the tip. The gray, winged seed contained under each scale is about one fourth of an inch in diameter. The cones are deciduous at maturity.

The dark gray bark is deeply fissured on old trees and divided into irregular, longitudinal scaly plates. The wood is hard and strong, the heartwood reddish brown and the sapwood pale yellow. In the countries where it grows naturally it is a valuable timber tree and is used for general construction purposes and most of the products for which pine timber is suitable. Austrian pine is not important as a source of commercial timber in the United States as the tree is commonly grown for ornamental purposes and the numerous branches produce coarse, knotty timber. In lower Austria, however, where it occurs abundantly, timber of good quality is obtained from trees fre-



L. W. Brownell

The male flowers occur in clusters of three to ten. The female flowers are bright red and occur singly or in twos or threes

The dark green needles occur two in a sheath. The mature cone is egg-shaped, yellowish brown, and from two to four inches long

quently more than 100 feet high with stems clear of branches for as much as two-thirds of their height.

Because of the symmetrical form of the tree and its dense, dark green foliage, Austrian pine is one of the most common exotics used in ornamental planting in the United States. Of pyramidal form in youth, it will maintain its lower branches for 30 to 40 years if given ample space, usually showing vigorous growth for at least 60 to 70 years. The broad, flat top of older trees also gives a striking appearance.

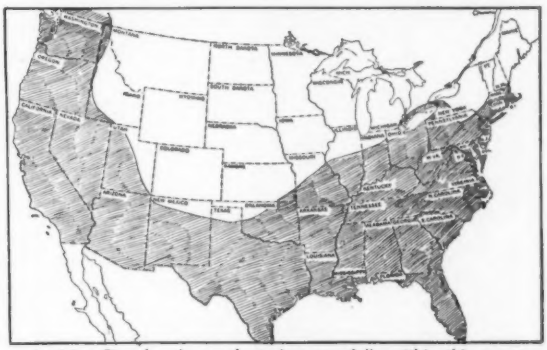
Austrian pine is considered a valuable ornamental tree for bold natural effects. Although more severe and not so graceful as other trees such as the white pine and hemlock, it is well liked as a single or lawn specimen. When planted in mass for landscapes, the dense, dark green foliage is considered by some to give a somber and depressing effect. This may be relieved, however, by interplanting groups of trees with brighter foliage.

The tree is hardy in eastern United States as far north as southern Ontario and New England. It is not very particular as to soil, growing well in sandy soil as well as in heavy loam and clay. It often serves as a windbreak for gardens and orchards as the dense foliage and stiff branches will withstand wind and heavy snow.

Because of its extraordinary hardiness and rapid growth it is a suitable tree for field planting and for covering waste places and rocky, worthless land. It is also used for the improvement of land by fixing sand dunes. The rate of growth of Austrian pine is about the same as that of red pine.

L. W. Brownell

The dark gray bark is deeply fissured on old trees and divided into irregular, longitudinal scaly plates. The wood is very hard



Austrian Pine has been planted successfully within this range

Modern Christmas Trees

(*From page* 11)

to phone your dealer and order a No. 1 premium, a No. 2 standard, or a No. 3 utility tree at a somewhat generalized spread in prices.

In general, a No. 1 premium tree is near perfect and suitable for the center of a room. A No. 2 standard is a less-than-perfect tree which, when placed against a wall, presents a pleasing appearance. No. 3 or utility trees are imperfect trees which are satisfactory when placed in a corner and tinselled.

Occasionally, some reflective conservationist becomes alarmed at the harvest of Christmas trees which "thwarts forest conservation by taking trees before they can grow to sawlogs, telephone poles, and pulp bolts." Actually, the over-all drain on our forests from Christmas trees is small, but in certain easily accessible areas excessive cutting of Christmas trees is a problem.

It is estimated that a natural, Douglasfir forest fifteen miles on a side and favorably managed could supply each year the 28,000,000 trees that were used last year. By another comparison, if the abandoned farm land in New York State alone were planted to Christmas trees, all of the nation's requirements could be supplied in perpetuity.

So the cutting of Christmas trees is not poor conservation *per se*. Often such trees cut out of thickets benefits the forest, and surely there is no more glorious end to any tree than to starlight a child's eyes on Christmas morning.

Modern improvements on the old Christmas tree custom blossomed forth with the depression in the 1930's. When nurserymen could not sell their cultured evergreens for landscaping, some cut them for Christmas trees and thus was born the Christmas tree farm. Now about 100,000 acres are planted solely for growing Christmas trees.

Near the larger cities the plantation growers often cater to urban dwellers who find it to their liking to select their tree on the stump and possibly cut it themselves. Cultivated trees are probably of better quality on the average for the same reason that a ranch source mink coat (though usually costing less) is likely to be more blemish free than one from wild-trapped animals. Nature is seldom mild, but a plantation owner can give his trees individual care, such as pruning and spraying, to improve the product.

Also introduced during the depression was the paint spraying of evergreens. Now one can buy a tree in glittering silver, sky-blue, or brilliant green, even in pastel shades or a peppermint stick effect of red and green splashes on a silver base. One of the advantages is that the tree is more fireproof after the paint has dried, but it takes a gallon of paint to spray an eight-foot tree.

Whereas grandfather used to shoulder an ax and roam the woods for the annual Yule tree, modern business methods have eliminated such inconvenience, albeit some of the fun, too. You can order a Douglasfir now by mail that will come to you in a neat cardboard package. One Montana producer even takes orders on a fifteen-year contract basis so the purchaser can practically forget the whole thing.

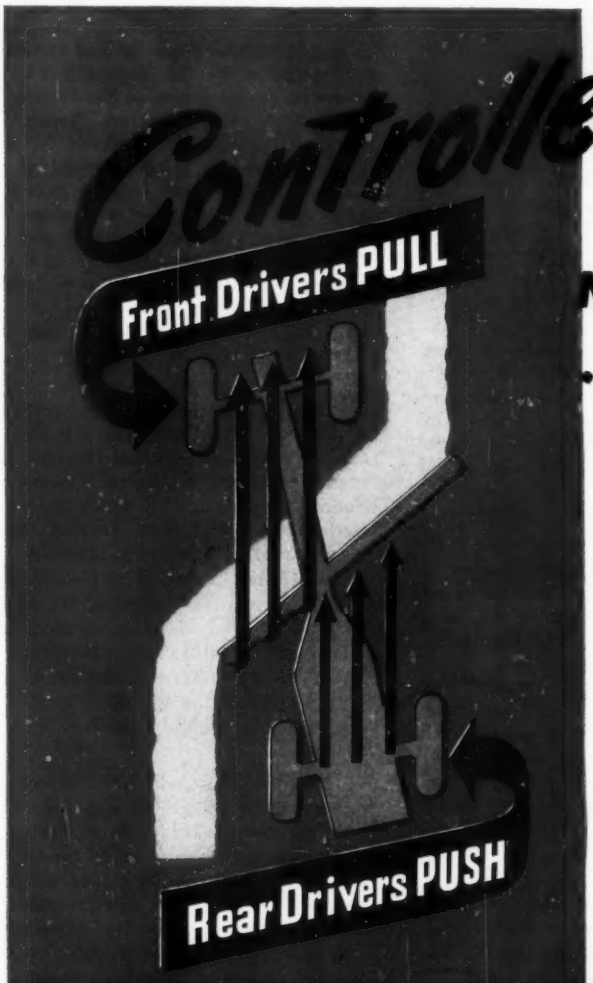
Modern tree dealers sometimes specialize in large-sized, perfect specimens. In this case the sale is usually on an installed basis. To place, decorate, and later remove the king-sized Christmas trees used in hotels, lodgehalls, and some community centers is something of an engineering problem each year.

Often trees placed on upper floors have to be pulled up on the outside of the building and brought in through a window. To do this and not break a branch, drop a needle, or harm a gawking pedestrian, the company usually gets several hundred dollars. A twenty-five foot tree weighs 300 pounds — definitely a package too large to be delivered by messenger.

Notwithstanding modern improvements and intensive commercialization, no one has yet thought up a better idea to celebrate Christmas than a freshly-cut and decorated tree. Although foresters say it is about the most expensive wood they can produce, maybe it is worth it all and more just once a year. Behold your twinkling, merry Christmas tree! What a warmth of emotion it harbors. Catch that fetching wilderness aroma! Feel the satin needles and supple branches! See the bewitching beauty of a thing God-given. No, it is not for improvement, it is perfection.

AUTHORS

WALT HOPKINS (*Hog Dog*) is a forester attached to the Southern Forest Experiment Station, New Orleans. **BEN M. HUEY** (*Modern Christmas Trees*), also a forester, is with the Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Montana. **HARLAN P. KELSEY** (*Arborways for America*), from East Boxford, Massachusetts, nationally known landscape architect and conservationist, was a member of the original Southern Appalachian National Park Commission. **HENRY S. KERNAN** (*Cooperstown Co-op*), of South Worcester, New York, forester and writer, operates his own timberlands. **HOWARD MENDENHALL** (*The Lord's Trees*) is forester for the Brandywine Valley Association. **HAROLD OLSON** (*Ants in Their Plants*) is a Portland, Oregon, writer. **GORDON A. SABINE** (*Tillamook Replants*) teaches journalism at the University of Oregon. **WILLIAM J. SCHALDACH** (*Grouse Are Psychic*), well-known artist in the outdoor field, is also the author of several books. **A. K. THURMOND** (*Log Rolling in Reverse*) is a Tennessee Valley Authority forester.



Controlled Traction

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Whenever you see an Austin-Western Power Grader in the offset position, shown on this page, you can be sure that it is moving more material farther and faster than any other grader can move it.

"Controlled Traction" is the reason — and controlled traction is possible *only* in a grader with the directional control of All-Wheel Steer, plus the "push-pull power" of All-Wheel Drive.

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With the rear truck in the ditch and the powerful front end up on the road, the grader works steadily and easily in drifted sand, without sliding or stalling.

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BUILDERS OF ROAD MACHINERY

Austin Western

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NEWS IN REVIEW

N. F. McGowin of the W. T. Smith Lumber Company of Chapman, Alabama, was named president of American Forest Products Industries, Inc., by the board of trustees at its annual meeting in Washington, D. C., November 2. He succeeds Sydney Ferguson, president of the Mead Corporation of New York, who has headed the industry-sponsored forestry organization for the past two years.

Others officers named by the board included: Walter J. Damtoft, Champion Paper and Fibre Company of Canton, North Carolina, vice-president; Clyde S. Martin, Weyerhaeuser Timber Company of Tacoma, Washington, vice-president; P. H. Glatfelter, P. H. Glatfelter Company of Spring Grove, Pennsylvania, treasurer; William B. Greeley, of Seattle, chairman of the board; and Charles A. Gillett of Washington, D. C., secretary.

A special board of review appointed by the chief of the U. S. Forest Service to investigate last August's Mann Gulch fire in Helena National Forest, Montana, in which thirteen smokejumpers lost their lives, found no evidence that those responsible for the action of the fire-fighting crew disregarded elements of risk which they are expected to take into account. The board did conclude, however, that the catastrophe indicated a need for further intensification of studies of fire behavior to furnish more dependable bases for anticipating and predicting fire "blow-ups."

And while recognizing that training of fire suppression personnel has included instructions on how to recognize dangerous conditions and the importance of following leaders in emergencies, the board recommended that even greater emphasis be given in fire-fighter training to these factors.

A new experimental forest of Douglasfir young-growth has been established on Pope and Talbot, Inc., lands near Kingston, Washington, by execution of a cooperative lease agreement between the company and the Pacific Northwest Forest and Range Experiment Station. Located within the boundaries of the company's Hood Canal tree farm, the tract will be known as the "Hood Canal Experimental Forest."

Under the agreement, which anticipates a cooperative twenty-year program of forest management research in silvicultural methods, wood utilization, practical thinning procedures, forest regeneration and cost and returns, the Forest Service will prepare working plans and lay out experimental cuttings on company lands, analyze results and report on them. The stand is similar to others in the region, and findings will be made available to all forest owners.

A new forestry manual, written for the Chamber of Commerce of the United States by its forestry consultant, G. Harris Collingwood, highlights the need for increased public interest in safeguarding the nation's timber resources. It is designed to encourage local chambers to organize forestry committees and explains how these groups can act to encourage, assist and expedite a long-range protective program within the pattern of private enterprise, to assure proper harvesting and replanting of timberlands.

C. C. Sheppard, who during his lifetime occupied nearly every position of honor that the lumber industry was able to bestow, died November 3 at his home in Clarks, Louisiana. At various times he had served as president of the Southern Pine Association, president of the National Lumber Manufacturers Association, chairman of the National NRA Code Committee, chairman of the Central Committee on Lumber Standards, and as a member or chairman of practically every important committee in the lumber industry. At the time of his death, he was president and general manager of the Louisiana Central Lumber Company, Clarks, Louisiana.

The chancellor of the University of Toronto, the Right Honorable Vincent Massey, has accepted the chairmanship of the Canadian Quetico-Superior Committee, a newly organized group designed to parallel the work of the President's committee in the United States. The Canadian committee will seek to invoke the aid of governmental agencies, conservation, civic, scientific and educational organizations concerning the use and preservation of the Quetico-Superior country in the public interest.

William Vogt, chief of the conservation section of the Pan-American Union since 1943, has submitted his resignation to devote full time to writing and lecturing on conservation issues. An honorary vice-president of The American Forestry Association, Mr. Vogt is internationally recognized as one of America's leading conservationists. He is the author of the best-selling *Road to Survival.*

Right Honorable Vincent Massey, chancellor of the University of Toronto, named chairman of the new Canadian Quetico-Superior Committee.

N. F. McGowin, AFPI's new president, is also president of W. T. Smith Company, Chapman, Alabama. He succeeds Sydney Ferguson of New York.

POPE & TALBOT CENTENNIAL

A CENTURY OF GROWTH & PROGRESS

A century ago, it was "Westward Ho" to the fabulous country of the West. On December 3, 1849, Andrew J. Pope and Frederic Talbot set up business in San Francisco to engage in lumber and trading. Four years later, the first sawmill was producing lumber at Port Gamble, Washington. In rapid succession, timber holdings were acquired, other mills built and soon a fleet of ships were carrying Pope & Talbot lumber to ports of the Seven Seas. In the span of 100 years, Pope & Talbot have been progressively identified with the growth and development of the West Coast.

Today, direct descendants of the original founders, actively manage the firm of Pope & Talbot, Inc., which comprises vast timber holdings, three large sawmills—a creosoting plant and a fleet of modern cargo vessels with customers throughout the world. Participating in our progress are 2228 coworkers—men and women of experience, initiative and ability—enabling us to produce Douglas Fir lumber that is properly milled, properly graded and properly handled. We look forward with confidence to another century of growth and progress.

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Oregon

MAMMALS OF NORTH AMERICA, by Victor H. Cahalane. Published by the Macmillan Company, New York City. 682 pages, illus. Price $7.50.

In one volume, under ninety-four headings, Mr. Cahalane, chief biologist of the National Park Service, has presented all of the species of North American mammals. His approach to the problem is eminently satisfactory with the animals divided into families—the wild pig, deer family, the bears, chisel teeth and so on. The various descriptions, sometimes dramatic and always interesting, supply a tremendous amount of information regarding the life histories, habits, distinguishing characteristics, habitats and range of the animals being described.

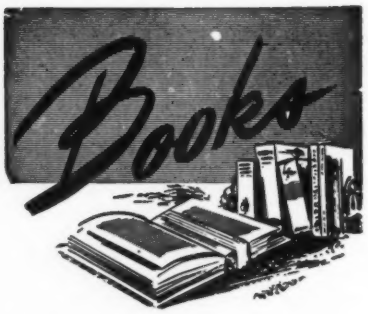
Ninety-two black-and-white drawings by Francis L. Jaques provide dramatic portraits of the animals being described. An extensive bibliography of literature relating to animals is supplied for the benefit of scientists and others who may wish to explore the subject at greater length.

THE EVERGLADES, River of Grass, by Marjory Stoneman Douglas. Published by Rinehart & Company, Inc., New York City. 406 pages. Price $3.50.

Beginning with an explanation of the nature of the unique region, this latest in the Rivers of America series covers the complete history of the Everglades. The natives, discoverers and all those connected with the territory, down to the present time, are described. The author lived in South Florida many years and has done much research to furnish authentic facts and anecdotes.

THE LUNGFISH, THE DODO, AND THE UNICORN, by Willy Ley. Published by the Viking Press, New York City. 350 pages, illus. Price $3.75.

Willy Ley says that the lungfish goes into "estivation," a summer sleep as opposed to hibernation. He —or she—merely wraps up in river mud, then waits until the water dissolves the mud cake, and emerges no whit emaciated. This is the type of material one encounters in this book. It is a remarkable zoo of strange beasts from the far corners of the world, creatures zoological or mythical. Mr. Ley's speculative attitude in poking thoughtfully in unusual places might be said to be "I wonder what else might be hiding in there." Frequently he finds out, too.



PROPAGATION OF TREES, SHRUBS AND CONIFERS, by Wilfrid G. Sheat. Published by The Macmillan Company, New York City. 479 pages, illus. Price $7.50.

The horticulturist for the British Ministry of Transport, formerly with the Royal Botanic Gardens at Kew, has brought together a comprehensive treatment in encyclopedic form of practical plant propagation. In addition to including the more common trees and shrubs, it deals also with less known species and varieties which have ornamental value.

ESTES PARK, RESORT IN THE ROCKIES, by Edwin J. Foscue and Louis O. Quam. Published by University Press, Dallas, Texas. 96 pages, illus. Price $2.

Here two geographers tell the story of one of the country's most popular resort areas—Estes Park and the adjoining Rocky Mountain National Park — which attracts more than a million tourists each year. Anyone who has visited, or intends to visit, this distinctive Colorado resort will find this informative book especially interesting. The resort's colorful historic background is well presented and made richer by a selection of good photographs.

THE INSIDE STORY OF UNRRA. An Experience in Internationalism, by Marvin Klemme. Published by Lifetime Editions, Incorporated, New York City. 307 pages, illus. Price $3.

Marvin Klemme, a graduate of the University of Washington and Yale Forestry schools, entered UNRRA early in 1945 and spent the following two-and-one-quarter years with the Displaced Persons Operation in the British Zone of Germany as forestry and agriculture adviser, later as the zone employment officer.

In view of his training and the fact he was in a key position to watch developments in Germany, his comments on the first large-scale experiments of this new international organization are of great interest. His experiences in D.P. forestry operations—which proved to his own satisfaction that displaced persons, when organized, will produce just about as well as anybody else — should be of special interest to readers of AMERICAN FORESTS.

FOREST PRODUCTS RESEARCH GUIDE, published by National Lumber Manufacturers Association, Washington, D. C. 261 pages. Price $5.

This is the third edition of a key to what is going on in forest products research. It brings up to date the who, where and what, including many projects which were secret and confidential when the earlier editions were published. It is a must book for anyone seeking research assistance or planning to embark on research in wood.

AGRICULTURAL PROBLEMS AND POLICIES, by Henry F. White. Published by the John Brown Press, Siloam Springs, Arkansas. 232 pages. Price $2.75.

Problems and policies affecting the farmer and his production of agricultural crops are discussed in this volume. Chapters deal with governmental policies regarding lands and natural resources, tariffs, taxes and money, transportation problems, farm relief, agricultural land leasing and the farmer and economic progress.

WILDLIFE FOR AMERICA, by Edward H. Graham and William R. Van Dersal. Published by Oxford University Press, Inc., New York City. 109 pages, illus. Price $2.50.

The distressing story of America's wildlife since the time our ancestors came to this country is unfolded by these authors, both of whom are associated with the U. S. Department of Agriculture.

Man, through negligence and unintelligent practices, has destroyed much of the food, cover and water needed for wildlife survival. The authors point out that there is a pressing need for the conservation of wildlife—so valuable to our economic life—or eventually many more species will become extinct like the passenger pigeon.

What we have done to protect a number of the creatures, as well as what we must do to improve our wildlife is told in a clear and simple style. The striking black-and-white photographs add to the appeal of this book for the boys and girls of America to whom it presents a challenge.

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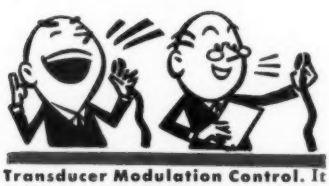

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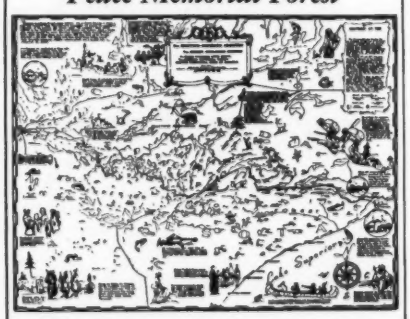

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Grouse Are Psychic

(*From page* 30)

likes both meat and vegetables and is particularly fond of grasshoppers and crickets in season, besides beetles, bugs and various cutworms and other larvae which he grubs out of the leafmould of the forest floor in the manner of a scratching hen.

Berries of every description are eaten eagerly, particularly wild raspberry and blackberry. When summer has run its course and the first frosts of autumn announce the opening of the gunning season grouse may often be found in the blackberry patches bordering cover—in New England such spots are called "rimmin's"—where the birds feed on dried blackberry "raisins."

During a heavy beechnut year grouse gorge themselves on the sweet triangular nuts, and since beech trees usually grow on the highest and toughest ridges it is a trying time for the shooting man.

When the deep snows of winter clothe the hills and valleys of Grouseland, burying and freezing out normal feed, the partridge switches to buds and gets along well enough. Spruce, hemlock, maple, birch, beech, poplar—all are grist for the grouse mill. The flesh of budding grouse is said to be strong and rank, especially if many buds of coniferous trees are eaten. I wouldn't know because I'm a law-abiding citizen and the season is closed in the winter.

In common with most birds, grouse feed throughout much of the day, nibbling at this and that as they travel. They take a long siesta on warm sunny days and enjoy dusting in sheltered spots along old wood roads and the edges of fields and pastures. During long rainy spells grouse will stay in heavy pine and hemlock shelter, going for considerable periods without feeding. An old gunner once told me to watch the chickens; when they leave the coop and start to scratch it's a sign that the rain is about over and the grouse will come out, too.

As might be expected with such a rugged individualist, the partridge is an ardent lover. When the warm April sun has burned away the last of the forest's snowdrifts the age-old call of cupid sneaks into his feathery breast. Then from a log located deep in the forest—usually an old one used season after season—he performs the unique rite of drumming. With feathers compressed and tail partly spread as a brace he beats his wings sharply downward, creating a muffled sound like a drumbeat which can be heard for a distance of a mile. It starts slowly, gradually accelerating and ending in a long roll something like this: Bup, bup, bup, bup, bup, br-r-r-r-r-r-r.

The drum call is both an invitation and a challenge and is answered by cocks and hens alike. The gals come to look over this Don Juan who thinks he's so much and the boys figure that there could be a pretty good scrap and the party might be worth crashing. And usually they are right.

The nest is a rough affair of twigs, built on the ground in a sheltered place near a tree stump or log, and the eggs usually number eight to about twelve. The chicks are cunning little devils, protectively colored and emerging from the shell into this world with a full complement of grouse brains. They are hatched, in most parts of the North, in late May or early June and by the Fourth of July are the size of quail. If it has been a normal year they should be strong-flying birds by October. Young birds can be distinguished from old both by their plumage and weight. They do not have the full large fan which is the grouse's glory until the second year; and the young usually weigh from a pound to a pound and a quarter, as compared with a weight of a pound and a half or more for an adult grouse.

It has been said that the borderline between genius and insanity is extremely slim. If we accept the grouse as a genius—and what brush-plodder doesn't?—then it is easy to see how this brilliant bird could occasionally step over the line and go nuts. It is the only explanation I can think of for the commonly noted phenomenon known as the "Mad Moon."

During late summer and early autumn queer things are apt to happen, not only in the country but also in the small towns of Grouseland.

Just last fall a grouse crashed through the livingroom window of a friend in White River Junction, smashing it to bits. The bird was found hiding under the radio, apparently in perfect health, and when released in a woodlot a mile away flew off as though the trick he had pulled was something he was quite used to. The house is located on a busy street in the heart of the town, the nearest cover a long way off.

Driving along Locust Creek toward Barnard one October day, my wife and I saw a grouse streak like a bullet from an orchard on the right, cut across the path of the car a few feet ahead and dive into an open hayloft of a barn on the left side of the road. Apparently nothing had flushed him; he was just bitten by the Mad Moon bug. So far as I can discover, there is no logical explanation of why grouse act that way.

Strange as this performance is, a still more inexplicable show is occasionally reported in widely scattered parts of the country. "Tame" grouse have been observed and written up so frequently that the topic is no longer news. An apparently wild bird will fly or walk up to a man, flap up on his shoulder or arm and strut back and forth like a domestic pigeon. It makes no difference whether he has seen the man before or not; the bird's wild cunning and native protective instincts have been erased by some strange brain quirk. He's really not tame at all, just crazy as a coot.

Jinny, the tame grouse of Westchester County, New York, was a famous example. She lived in a woodlot belonging to a well-known sportsman and during all seasons of the year would oblige visitors by putting on an incredible show. Calling or whistling would bring her sailing on silent wings, often a distance of several hundred yards, to alight at your feet. Without hesitation she would hop up and wander over your shoulders and outstretched arm, pecking away inquisitively and talking incessantly. She showed no partiality and would visit one person after another.

Of all the upland game birds in our country the ruffed grouse is the toughest, gamest and best able to survive rapidly changing conditions. Why, then, are there not more grouse?

The answer lies in the unfortunate fact that the partridge is subject to disease, or a combination of diseases, the nature of which has so far eluded the efforts of many researchers. Like several other forms of animals and birds—the varying hare, lemming, cottontail, wood mouse and several species of insectivorous birds—the grouse follows a fairly regular cycle, running from comparative scarcity to a heavy peak.

Fortunately, periods of scarcity do not coincide in time in all sections of the country so that birds may be plentiful in, say, Nova Scotia, while at a low point in New York State.

The grouse hunter is ever hopeful; he has to be because without faith—and a pretty stout constitution besides—he would never have the courage to face what lies ahead of him on an average day's junket in the rough and stony coverts of the Northeast. He had better have a sense of humor, too, as good a one as the average grouse possesses, or he'll get very little fun out of the game.

I have been thinking of past seasons and of some of the strange things that happened on hunts. Strangely enough, it's usually the misses one makes and the wise old birds that outwit one that come to mind. For example:

We had a bad day, getting poor breaks and finding very few birds, and the shot or two apiece we had taken at wild grouse failed to connect. At sunset, with empty coats, we turned the car homeward, rolling through the sleepy little town of Plymouth and along into the Ottauquechee Valley, through Woodstock and on to the Pomfret Hills. My partner dropped me off at the foot of our hill and I trudged up toward the house, gun unloaded and over my shoulder. As I rounded the bend, not one hundred feet from the door, three grouse roared out from under my very feet and sailed across a perfectly open mowing. It was a rare chance for a double; I hadn't had an opportunity like that all fall, but there I was with an empty gun.

Are grouse psychic? Or have I fooled around with the critters so long that I'm just imagining things?

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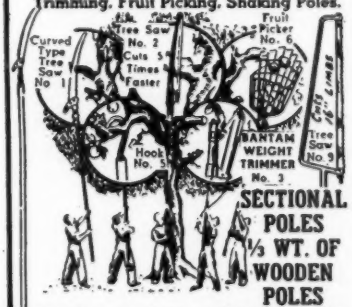

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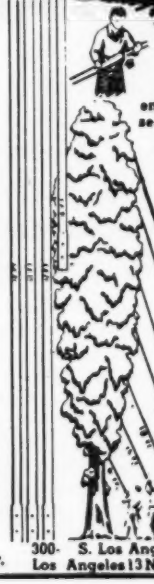

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Tillamook Replants

(*From page* 16)

ernor Douglas McKay puts it, "Every year we delay putting Tillamook Burn back into production, we are losing nearly $2,000,000 worth of future business."

The job will be done with a minimum of personnel. A score of men did the preliminary survey this past summer. Another score will be busy planting during this and succeeding winters. There are only five "overhead" supervisors.

Considerable help may come from temporary employees, such as teams of fallers, who'll be hired on a contract basis to clear out snags. Their work will be marked ahead of them by a squirt of yellow traffic paint "blazed" on every snag to be cut.

The state forestry board would have given the department more money each year to do this task, but the late State Forester Nels Rogers wanted only that $750,000 maximum.

"That's all we figure we can spend intelligently, and still get full value for every dollar," he explained, "And this way, we won't have to build up a tremendous organization, and then have to let men go when work gets slack."

Rogers died September 18 after several months' illness, so administrative direction of the job has fallen on George Spaur, acting state forester. Cooperating also are the research division men under John B. Woods, Jr., the protection staff led by Dwight Phipps, and the forest management office of Lynn F. Cronemiller, all assistant state foresters.

In charge of initial investigation and planning is the department's thirty-three-year-old Rudy Kallander, Oregon State College forestry graduate.

On the basis of Rudy's investigations, Assistant State Forester Cronemiller draws up specific recommendations for the location and nature of the rehabilitation work which is then carried out by the protection crew.

The problems aren't over yet. But if they're met as thoroughly as past puzzles have been solved, Oregon will have a new stand of stately Douglas-fir to cut only seventy-five or 100 years from now, instead of waiting for Nature to take 500 years or longer to build up the same supply.

Getting the Most Out of Wood

(*From page* 19)

saw and supervise waste control. "The cutting of lumber is a science," he contends. "Of course, it isn't an exact science, but it is such a highly specialized task that it would justify even a comparatively small plant to hire a full-time specialist to supervise conversion." He proves his point by showing how a plant cutting 100,000 feet of lumber a month could save $1600 by increasing its utility from sixty to sixty-five percent.

While competent specialists in utilization are not plentiful, Dosker never loses an opportunity to encourage his own employees to absorb more of this valuable knowledge. Besides helping to get maximum utility from the sawyers, such men can render much needed service if they have the ability to determine what each grade of hardwood lumber can be expected to yield by length and width of cuttings, by number of cuttings permitted and by percentage of cuttings in relationship to the total area of the board.

"The selection of the proper grade for the proper cutting is of tremendous importance," insists Dosker. "The length, width and grade of the rough blank sizes needed are the principal factors that determine the proper grade of lumber from which the parts should be cut. If these requirements can be met by using poorer grades of lumber, why use No. 1 common or better?"

Also important is the ability to study the placement of defects in the board to be sawed and know whether it should first be ripped or crosscut to obtain the maximum yield in length and width of cuttings. "It

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may be a shock to you," Dosker recently told a group of manufacturers, "but failure to take this factor into account places a terrific dollar penalty on your utilization of lumber."

Having by no means exhausted the subject of utilization, it is not surprising upon continuing our tour of the plant to learn that Dosker is also an inventor. Collaborating with G. M. Diehl, he developed an edge gluer which feeds panels of wood continuously through the machine. This greatly speeds up the laminating process, for previously only one panel could be glued at a time, and it had to be removed before another could be started.

Another development is an automatic matching saw by which the edges are evened up by bringing the saw to the wood rather than the wood to the saw. As a time saver in making frames for folding chairs, Dosker designed a machine which simultaneously rips five frames from one laminated blank. A shaper then rounds the edges.

During the war the Navy gave Gamble Brothers a chance to make the outer keel (or skeg) for assault boats. There wasn't much precedent for such lengthy laminated structures, so Dosker and his men had to learn by trial and error. Some of those experiments, which were concerned chiefly with the use of comparatively new synthetic adhesives at high temperatures on keels which were destined for salt water, were gratifyingly successful. Made of white oak, they were durable, the laminations held firm and there was little evidence of warp—chief criticism of wartime one-piece keels.

This, too, called for the development of a new machine to make end scarf joints which would withstand great stress. So diligently and conscientiously did Dosker and his men throw themselves into this work that Gamble Brothers was soon training inspectors for the Navy whose job it was to accept or reject this type of construction.

Gamble Brothers also did some experimenting on making bridge timbers and mine guides. It has withdrawn from the large timber field, but its knowledge would come in handy in the event of another war.

Currently plant facilities are kept humming in supplying parts for the furniture, display, cabinet and piano (core stock) industries. Among its other activities, perhaps most successful was the introduction of the laminated bowling pin. Dosker and his men claim they are superior to the one-piece solid maple pins, for the laminated variety has edge grain all the way around and cannot splinter. At any rate, the new pin was admitted for use by the American Bowling Congress a year ago last spring, and since then production has been stepped up to about 1000 pins a day.

Dosker is always ready to prove a new use for wood. In his files are the records of countless experiments in various stages of completion. In fact, there are quite a few tried and tested products among these which are not now being made in the Gamble Brothers plant, several of which Dosker declines to discuss. But the "know how" is there and will be hauled out when and if conditions warrant.

It's no secret, though, that Gamble Brothers has its eye on developing a stock to be used with veneer and masonite. In fact, these combinations have already shown such promise that a new and vast market may well be in the offing.

It's easy to conclude that Dosker and Gamble Brothers are doing their share to help conserve our forests through their many examples of utilization. While this is true, Dosker isn't one to pose under false colors. "Don't forget that our methods are saving us money, too," he reminds. "It's just good business."

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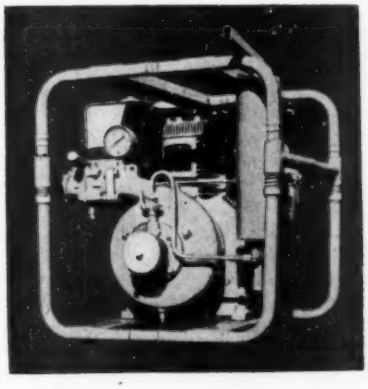

Above—Firefighter showing the correct way to use hose, in mopping up—for which the FZZ and HPZZ are mighty handy. Photo by U. S. Forest Service.

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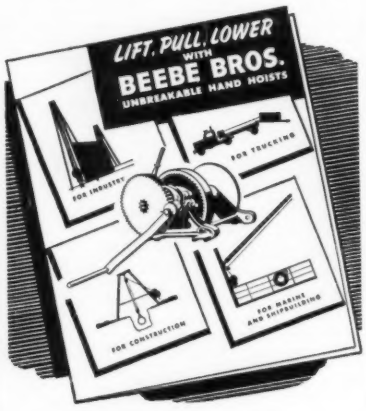

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Arborways for America

(*From page 9*)

purposes certain lands adjoining the freeway. Furthermore, a small acreage might be acquired where the freeway cuts off several parcels of land on the western boundary of Camp Meade. It would seem unthinkable if through inertia, or otherwise, National Arboretum authorities failed to grasp this golden opportunity to expand into a really notable institution, a National Arboretum that would be commensurate for the needs of a great nation.

For another outstanding example, consider a coastal or near-coastal arborway from Washington, south through Virginia, the Carolinas, Georgia and Florida to Key West. There would be complete consecutive assembling along the way of all trees, shrubs, vines and flowers indigenous to each section or zone, properly planted for landscape effect and for illustrating economic uses and recreational values. At suitable intervals this coastal arborway, like other arborways, should connect and be integrated with local, state and national forests and parks, with adequate facilities for camping, swimming, fishing and study. The fullest cooperation with state and county authorities should be provided for.

Artistic informational bulletin boards, replacing disgusting billboards and hot dog stands, would tell the story of each zone from Washington to Key West. They should give accurate name lists and uses of flora and fauna in each particular zone and section. "Ribbon development," the common curse of our American roadsides, should be entirely prohibited.

Experimental sections devoted to forest, nut, or other plantations of special economic value, or of exotic economic and ornamental plants, would diffuse knowledge at first hand to millions of travelers. Modern silviculture supervised by state or national foresters, good horticultural methods and fire and erosion control would be demonstrated.

Such a glowing picture could be drawn for every future arborway that might be established. The excessive monotony and fatigue resulting from long stretches of cross-country travel, so well known to every driver and passenger of an automobile, would be greatly lessened or entirely eliminated through variety, beauty and interest of the properly planned and maintained arborway.

The West has many unique opportunities for arborways of intense interest and beauty. Route 40 from Kansas City through Denver to San Francisco is one. What an amazing plant exhibition there would be from the Kansas plain flora to extremes of high mountain dark conifer forests in Colorado and westward.

Another exceedingly interesting arborway might extend from Arkansas or Louisiana across middle or upper Texas, New Mexico, Arizona and the southern end of Nevada to southern California. On this arborway the extremely fascinating, weird and often strikingly beautiful desert flora would be in vivid contrast to northern arborways. As along other western arborways, range plants would be a primary objective for experiment and demonstration, and also supplying needful ground covers.

Public Law 262, passed by the 81st Congress, authorizes an appropriation of $250,000 to enable the National Park Service and the Public Roads Administration to make a joint survey to determine the feasibility of a Mississippi River Parkway. The survey must be completed by August 24, 1951.

Here is an unparalleled opportunity to design and build a truly multiple-use highway, combining all the desirable features and objectives outlined above for arborways. It would extend from northern Minnesota 2,446 miles to the Gulf of Mexico.

The Central, South and North American Inter-American Highway is planned to extend from Fairbanks, Alaska to Buenos Aires, Argentina, and a considerable mileage is already built. Nearly 3000 miles would be added to its length if it were eventually projected south from Buenos Aires to Tierra del Fuego, and west from Fairbanks through to the Seward Peninsula coastline—a reasonable prediction.

Practically every climatic and a majority of the plant and wildlife zones in the Western Hemisphere from Arctic tundra to tropical jungle will be represented in consecutive sequences. If imaginatively, scientifically and adequately promoted and constructed, the Americas will possess a priceless international super-biological laboratory and glorified parkway of untold inspirational value.

It cannot be stressed too strongly that one of the most deadly deterrents to the physical betterment of the nation, both in urban communi-

ties and countryside, is the lack of adequate rights-of-way. Narrow street and road boundaries in town, city and countryside have imposed almost intolerable traffic congestion and untold economic loss since colonial times, and today the cost for adequate relief is so staggering that improvements come with incredible slowness and often not at all.

Only recently are we beginning to have proper planning and regulations to insure adequate widths for street and highway rights-of-way, proper set-back of building lines, wide parking strips between opposing traffic lanes and land reservations or park lands on both sides of highways. Therefore, in a study of the best routes for arborways, the possibilities and advantages of using new locations with adequate land takings should be carefully weighed.

A properly integrated arborway system would include routes in every state in the union. Fortunately, most modern highways being constructed today have carefully sloped and graded roadsides, and are usually more or less landscaped. The plantings are, however, primarily for landscape effects only, or to prevent erosion. Rarely if ever are the forestry, botanical, biological, educational, wildlife and recreational possibilities considered. Planted as arborways, all possible values would be conserved and developed and a multiple-use highway would result. This would entail no extra cost of maintainance and, if properly planned, there might be a substantial saving. The general upkeep in the main would be allocated usually to the same agencies that maintain our traveled ways today. Yet federal aid and supervision might well be justified on important arborways.

Proper zoning laws must be enacted to protect rights-of-way against billboards or other nuisances, including improper building and industry operations. Especially should limited access highways be adequately protected against marginal land abuse.

It is agreed that formal arboretums should be established and maintained in the leading plant and climatic zones of America, equipped with suitable buildings, libraries and herbariums for plant research and dissemination of scientific plant knowledge. At the best, however, only a small fraction of our average population will ever do more than make casual visits to them, and of these a majority will go chiefly to see the seasonal flower displays, such as average good city parks afford. This general tendency to make city parks out of our arboretums should be resisted and prevented.

Instead of using up the sadly meager acreage of the average arboretum with large mass plantings of showy genera, the plantings should cover the widest possible range of species and varieties that can be grown under present soil and climatic conditions. Arboretums will then be better able to serve their true objective as *research institutions*. Highways leading to or from established arboretums and planted as arborways would greatly relieve pressure for plant space, and where feasible might actually become a part of the arboretum itself, or at least be planned and supervised by the arboretum, as exemplified by the Washington-Baltimore freeway.

Is there any better way to introduce plant and wildlife knowledge and enjoyment at its best to all of our citizens than by creating these arborways? The roadsides of America must be planted in any event and the plantings maintained by designated authorities. Therefore, why not at long last use our best forestry, botanical, biological and horticultural knowledge and design the plantings to completely cover, so far as possible, the range of plant life to each region and climatic zones? What a glorious countryside we then would have where beauty, utility and recreation would all be combined, a living school of plant life.

My suggestion is that Congress should enact a bill creating a National Arborway Commission to make a complete study of this arborway proposition, and report back with recommendations within a period of twenty-four months if feasible. The bill should carry an appropriation sufficient to enable the commission to employ foresters, botanists, engineers, landscape architects, wildlife and all other experts needed.

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Log Rolling in Reverse

(*From page* 25)

posts is increasing now that livestock farming is being pushed by the extension service.

Three Tennessee Valley counties have foresters in assistant county agent posts. Benton is one of them; the other two are Marshall County, Kentucky, and Jackson County, Alabama. Here the Agricultural Extension Services and Tennessee Valley Authority are pooling their resources to test the effectiveness of intensive farm forestry at the county level. All valley counties participate in a co-operative reforestation plan. Trees are produced in TVA nurseries and distributed without charge through state forestry and extension service agencies to landowners within the Tennessee River watershed.

Ask Hamilton if he believes the Benton County plan will work elsewhere and you get a simple straightforward answer: "All you need is a group of determined men and women who are sincerely interested in forest conservation, who aren't afraid of hard work, and who realize they can sometimes help themselves *by helping others.*" A "Jimmy Hamilton" to provide the inspiration and leadership will make a difference, of course.

Cooperstown Co-op

(*From page* 27)

lem of American forestry and one to which the experience of the association has not supplied an answer.

But to embark upon a plan of more intensive forestry would involve expenses which the association cannot face. No forester as such is now employed and no special work is being done to encourage those investments in planting, weeding, and thinning which are absolutely necessary to produce the greatest yield of high-quality timber. Nor is any special provision made to market pulpwood, posts and fuelwood. Upon two separate occasions efforts have been made to process low-grade lumber at a profit. Their failure was marked and the management has no plans to resume them.

The Otsego Forest Products Association was originally financed through government loans and built with relief labor as an experiment. Through such a quagmire of debt and over-expansion did it flounder that it received much criticism and even sneers before arriving on solid ground. That it has been an expensive experiment no one will deny; nor does anyone wish it repeated on the same terms. Fortunately pioneer ventures never are so repeated and never need be. Others can learn by their failures and profit by their success.

The Lord's Trees

(*From page* 23)

$1,900. By cutting down their own trees and having them cut at the co-op sawmill at twenty dollars a thousand, it would cost them only $400 with a net saving of $1,500—just the amount needed.

But the idea seemed doomed. There were less than a dozen trees in the church-owned woodlot that were good enough for timber. The remaining ones were either too small or were more valuable as shade trees. Then the idea of a door-to-door tree soliciting campaign was proposed.

The neighboring farmers had gotten pretty well used to hearing Paul Coates and his committee urging them to help the church. But when they called this time and said "Brother, will you give a tree?" they were really stumped.

When the committee explained that "only God could make a tree but right now the Good Lord could use a few to help make a bigger church," they usually came away with a donation of one or more trees.

To the church members who didn't have any trees to donate was given the job of cutting them down, skidding, and hauling the logs to the co-op's sawmill. On rainy weekdays farmers helped harvest the trees and on Saturdays the town members came out to help.

Pastor Leaming joined the work crews.

Interested people in the community heard of the project and loaned tools and equipment and even their services.

The pastor shrewdly observed, as he watched the men work, "There's lots more than lumber in those trees. The lessons learned while working together in the woods in the springtime can be far more valuable than all the lumber we may have produced."

This Month With The AFA

America's awakening interest in conservation is one of the healthiest things that has happened to this country in recent years. As we close the door on 1949, we can't help but believe that the people of this country are striding into a new era of land use with a clearer vision of what conservation can do for them.

Not that the problems of how to best use the natural resources of this country are all settled. They aren't. But the fact that more and more people are doing something about conservation justifies this optimism.

Conservation is taking hold at the grass roots. It is becoming the concern of business. There has been a definite move in some of the progressive states to inaugurate better land use programs. We believe that all these signs and activities portray an increasingly optimistic future for the productive use of America's soil, forest and water resources.

The amount of material coming into AFA's offices telling of this progress is amazing. We receive it from all across the land. It comes to us in books, in announcements of meetings and demonstrations, in research bulletins. It comes from schools, colleges, industry, business, government and many other organizations. These accumulating stacks of materials are a wonderful indication of the action taking place on countless conservation fronts of the nation.

The activities of our own AFA members are probably one of the finest indications of this awakening interest. Our mails are loaded with letters from AFA members wanting facts, help and suggestions. With our help, this quest for knowledge is turned by members into many facets of activity.

From 1875, when a small group banded together to make conservation a crusading effort, AFA members have been the springboard of new activity in ever widening circles.

In its history, AFA has drawn to it nineteen prominent men to serve as its presidents. It has seen many influential people giving of their time and finances on its Board of Directors. It has had the help of men from many walks of life on its various committees. It has had the generous contributions of countless persons and organizations in developing many of its action programs. This nucleus of know-how and money has been a vital part of AFA as in any organization of similar nature. But it is equally true that it is you individual members who have defined its breadth and scope.

Contributing singly through almost three quarters of a century, AFA members in this nation have been the means whereby much good has been accomplished in the conservation of America's forest resources. In receiving AMERICAN FORESTS, you have been doing more than subscribing to a magazine. With its help you in turn have helped to broaden the sphere of conservation and stimulated the wise use of our natural resources.

While much of this stimulus has been put into motion through your AFA headquarters as a result of your membership dollars, many thousands of you have been important points of influence in your own localities. By word of mouth, your pens, or your actions you are setting other forces in motion and with it our conservation progress grows. Like a handful of pebbles thrown into a lake, the widening ripples of your influences are contributing greatly to America's awakening interest in conservation.

Dr. M. D. Mobley, director of vocational education in Georgia who was presented an AFA Conservation Award at the Annual Meeting, was guest of honor at a luncheon attended by 300 members of the Atlanta Kiwanis Club November 8 where Robert Hoskins, a member of the AFA awards committee, made a representation of Dr. Mobley's distinguished service plaque and a life membership certificate.

In making the presentation, Hoskins, forester for the Seaboard Air Line Railroad, gave a brief resume of the activities of the AFA and that night gave more details regarding the association's program in an address broadcast by Station WSB in Atlanta. The Kiwanis Club members and other guests at the luncheon at the Ansley Hotel warmly applauded Dr. Mobley, a pioneer in vocational education who was the organizer of the Future Farmers of America in Georgia. Four young farmers who have worked with Dr. Mobley in Georgia forestry programs also made short talks. Copies of AMERICAN FORESTS were presented to guests at the luncheon.

Because of his work in the state of Georgia, Dr. Mobley was selected by the AFA awards committee as this year's award winner in the field of education. Director of Georgia's vocational education since 1936, Dr. Mobley has devoted much time to all types of conservation, especially in the fields of forestry and soil conservation. The fact that the Kiwanis luncheon November 8 was one of the largest in Atlanta history attests to the esteem with which he is regarded in his home state.

An enthusiastic member and honorary vice-president of The American Forestry Association, Miss Ethel L. Larsen, chairman of General Federation of Women's Clubs Conservation Committee, writes:

"Thank you for one of the most interesting annual meetings I have ever had the pleasure to attend. You certainly did a wonderful job.

"I have just finished writing to everyone who had a part in this meeting and if I have left any one out will you please extend to him my sincere thanks. Again my appreciation and thanks for one glorious and interesting Sixty-Eighth Annual Meeting."

New life members welcomed to The American Forestry Association last month were Mrs. D. W. McMillen, Fort Wayne, Indiana; Kenneth D. Gordon, Berkeley, California; American Box Corporation, San Francisco, California; Frederic Rosengarten, Jr., Guatemala, C. A.; Thomas Brownback, Linfield, Pennsylvania; T. W. Ashby Lumber Company, Billings, Montana; and Harry A. Phillips, Chicago, Illinois.

S.L.F.

CHRISTMAS GREETINGS

We hope that every AFA member will enjoy a wonderful Christmas this year and that 1950 will bring you and your families good health, happiness and the other things you cherish in this life.

From the Staff
The American Forestry Association

EDITORIAL

Trees of Light

At sundown on Christmas Eve, President Harry S. Truman, standing bareheaded before thousands of people on the White House grounds in Washington, will press a button illuminating the nation. Officially, he will light the National Community Christmas Tree; unofficially, his action will signalize the lighting of community Christmas trees in every city, town and hamlet throughout the land.

The first National Community Christmas Tree dates back to 1924 and President Calvin Coolidge, but the first community tree preceded this by twelve years. According to Alma Margaret Higgins, who made a survey for The American Forestry Association, a sixty-foot balsam fir illuminated by 3000 vari-colored bulbs, flashed its message from Madison Square in New York as early as 1912.

Orlando Rouland, the New York artist, conceived the idea. Thousands of miles from his own fireside, he found himself one Christmas in the midst of a gaiety in which he could have no part. This made such an unhappy impression that ten years later, back in New York, he revealed to his friends a plan to have a large Christmas tree in a public square "with lights and the singing of carols for the lonely, homeless and friendless." It was this small group, inspired and led by Mr. Rouland, which gave the country its first Tree of Light—a group which eliminated self-motive by remaining anonymous.

So great was its influence, so inspirational the story behind it, that the community Christmas tree idea quickly spread around the world. Even in the Holy Land a lighted tree appeared on the Plains of Bethlehem. In this country it took many and glittering forms. The Kiwanis Club of Pasadena, California, for example, conceived the idea of lighting not one tree but a mile-long double row of 100-foot Himalayan deodars. Another group of Californians then launched upon the greatest Christmas illumination project on record. Forty miles of lights blazed along the Pacific Coast Highway, stretching in an almost unbroken line from Long Beach to San Clements; evergreen trees were planted especially for this magnificent display.

The citizens of Wilmington, North Carolina, strung thousands of lights over the spreading moss-covered branches of an ancient live oak; the little Montana town of Troy decorated a 100-foot pine; in Des Moines, Iowa, the Garden Club asked residents to decorate and light evergreens on their lawns, a custom that soon became nationwide.

But throughout the years, the most cherished Tree of Light has been the National Community Christmas Tree at Washington. From the first tree, a Norway spruce shipped from the Berkshire Hills and presented to the nation by The American Forestry Association, to the present graceful fir on the sloping south lawn of the White House, the President's tree has typified in the highest degree that communal spirit of kindness and all-embracing love which makes for peace on earth, good will to men.

Federal Funds Are No Bargain

Who among us, needing a new suit, would write a check for $100, send it to Washington, then sit down and wait for the federal government to mail back $75 with which to make our purchase? If this sounds unrealistic—and it is, of course— it is nevertheless about the way some of our conservation projects are financed today, according to A. G. Hall, forester for The American Forestry Association.

Speaking before the Maryland Sportsmen's Club in mid-November, he challenged taxpayers to analyze more critically what their conservation dollar is buying. "No businessman," he said, "knowingly would pay $1.30 for service or a commodity he could buy elsewhere, with normal business enterprise, for $1. Yet when it comes to spending public funds in the conservation effort, the yardstick used in business is too often put aside. One reason for this is the widely accepted fallacy that federal funds expended in a state or community are in the nature of a windfall, a gift from a benevolent Uncle Sam."

Actually, he pointed out, many states contribute more in taxes to the federal government than they receive in aids. For example, "Maryland's proportion of the federal tax burden (income and corporation) in 1948 amounted to $752,000,000, or one fifty-fifth of the total paid into the U. S. Treasury by all states and territories. During the same year the federal government appropriated $9,000,000 for cooperation with the states in forest fire protection, of which Maryland received around $107,000, or one eighty-fourth. In other words, the taxpayers of Maryland received less than a seventy-five percent return on their federal forest fire tax dollar.

This does not imply, of course, that the principle of cooperative federal aid to the states for conservation activities, such as provided under the Clarke-McNary law, is either unsound or undesirable. But it does suggest that our present system of matching state expenditures, dollar for dollar, may be antiquated. For example, instead of continuing to pour federal money into states that have achieved a high degree of protection for forest areas—states that have demonstrated ability to stand on their own feet—we might well consider revising the system of distribution of funds so as to concentrate on areas or states where standards of protection are low. The logic of this is that we would be putting the tax dollar to work where it will do the most good. At the same time, the less critical states, by doing the job themselves, would be on their way to getting a dollar's worth of conservation for every tax dollar expended.

For as Mr. Hall has indicated federal funds are no bargain. The conservation dollar wears mighty thin when it must make a roundtrip to Washington before it is translated into more productive forests, better land use, or a stabilized water supply.

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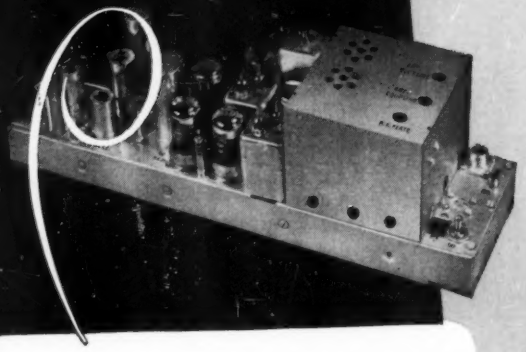

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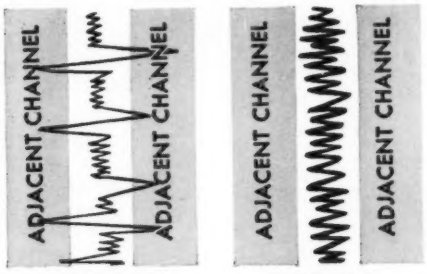

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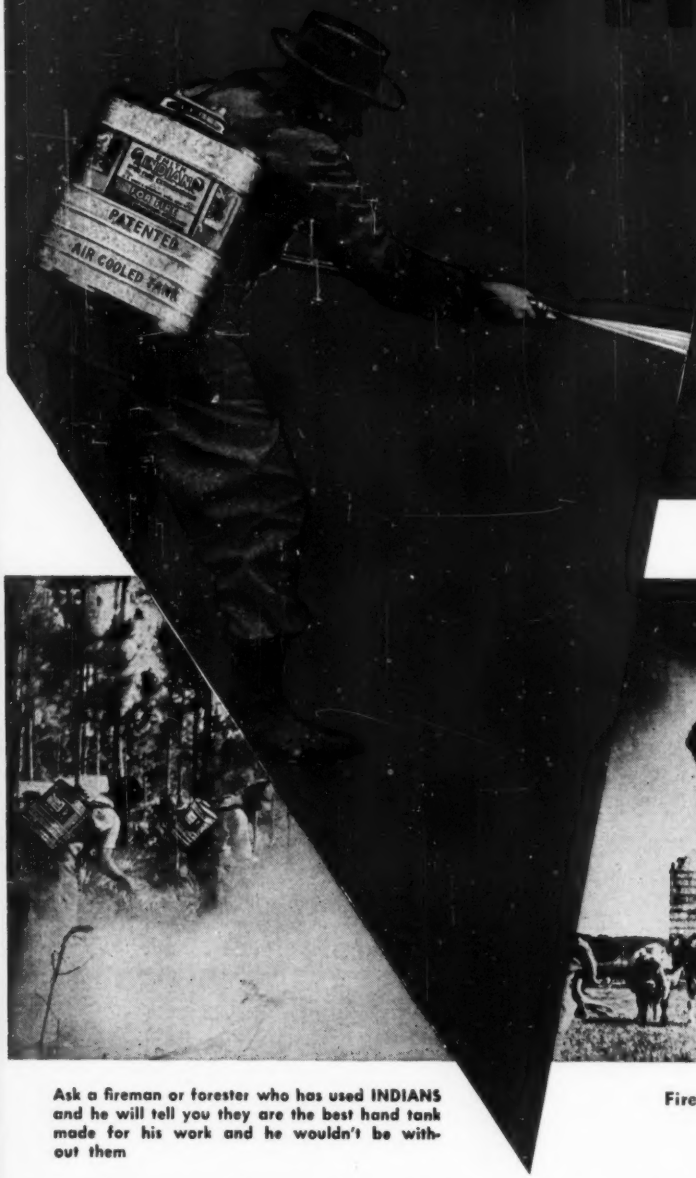

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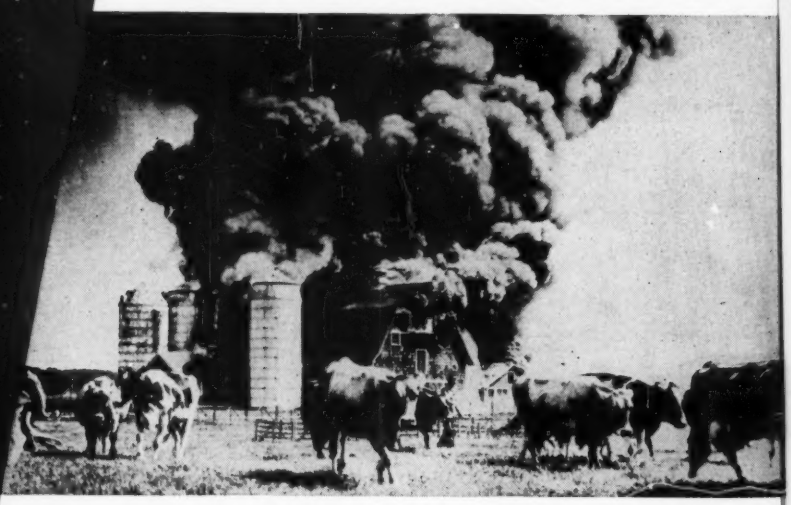

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